

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XL.

SATURDAY, MAY 6, 1882.

No. 18.

ORIGINAL LECTURES.

MÜTTER LECTURES.

ON THE HISTOLOGY OF INFLAMMATION.

Delivered before the College of Physicians of Philadelphia, April 24 to May 2, 1882.

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ABSTRACT OF LECTURES I.-V.

INFLAMMATION IN THE CORNEA.

GENTLEMEN: Having been appointed to deliver here a series of ten lectures upon some subject relating to surgical pathology, I have chosen that of the "Histology of Inflammation" for two reasons. 1. Because of its importance, if we would learn the changes which actually occur in inflamed tissues; 2. Because, notwithstanding the researches of many distinguished investigators, there is still much to learn concerning the minute processes of inflammation. The great champion of the activities and functions of the white blood-corpuscle, Cohnheim, in one of his monographs on inflammation of the cornea, very truly says that "too little is known of the anatomy of the cornea to permit of a final settlement of this question."

In taking up, again, inflammation of the cornea, it is useless to proceed with the pathological histology of this tissue, before first knowing something of its real normal histology, and the same remark applies to the pathological histology of every other type of living tissue. Hence the necessity of prefacing what I shall have to say of inflammation in the different tissues to which I shall invite your attention, by a short account of my understanding of their normal structure. In doing so, I shall dwell only upon points where a divergence exists from views generally accepted.

With regard to the cornea, I am compelled to dissent, in many respects, from prevalent opinions concerning the simplicity of its structure. Taking up the subject seriatim, I have sought to say concerning the anterior epithelium, except that this layer rests upon a layer of flat endothelial cell-plates which separates it from the basement membrane of Bowman, which latter, I am inclined to suspect, like other basement membranes beneath epithelial investments, is constituted in part, at least, of old elastic endothelial cell-plates. This basement membrane is separated from the substantia propria of the cornea by another endothelial layer, more or less complete, which in some places seems to be double, thus constituting lymph passages which assume the outline of a network. With regard to the nerves I have nothing to state, except that their lymph-sheath is occasionally in communication with adjoining lymph-spaces in the substance of the cornea, nor have I anything to say concerning the membrane of Descemet.

As to the structure of the substance of the cornea, included between the anterior membrane of Bowman and the posterior membrane of Descemet, my investigations lead me to coincide in many respects with Thin, and in consequence to depart from the teachings of Rollet, Klein, Cohnheim, Stricker, and others, in some important particulars. I admit the fibrous nature of the substantia propria as a condition existing in life and health, but I see three usual arrangements of the fibres. Rollet speaks of the possibility, after the action of the permanganate of potash, of resolving the bundles of

fibres ordinarily seen, into their ultimate fibrillæ; and others, as well as he, speak of the arrangement of the bundles of fibres side by side so as to form sheets, which are familiarly known as the lamellæ of the cornea, of which the whole thickness of the cornea affords a considerable number. I have been able to satisfy myself of the existence of an intermediate arrangement of the ultimate fibrillæ into small bundles or bands having a thickness from one-tenth to one-quarter that of the bundles ordinarily seen; they have a breadth about equal to the diameter of a red blood-corpuscle of man. Fig. 1 indicates such a constitution of an ordinary bundle, and shows most distinctly the existence of small intermediate bundles in the cornea of a kitten. The same arrangement exists in other cornea.

FIG. 1.



× 600

Furthermore, as to the arrangement of the ordinary bundles side by side to form a lamella or fibrous membrane. I have repeatedly seen both in the young and adult cornea, when normal as when slightly irritated, proof that there is frequently an intermediate arrangement between the ordinary bundles and the broad continuous lamellæ. There are bands or ribbons formed by ordinary bundles placed side by side. It is these bands or bundles which form the lamellæ. Sometimes they pass from one lamella to another, and often are composed of three or more thicknesses of lamellæ.

Now, as to the cells of the cornea. The prevalent belief is that they are of two kinds: the fixed cell, or stellate corneal corpuscle; and the wandering cell, or lymph corpuscle. I am convinced that there are at least four forms of cellular elements, and perhaps a fifth, which are constantly met with in the normal cornea, if proper methods are used for their demonstration.

One of which elementary forms is the leucocyte or lymph corpuscle, and need not be further discussed, except to say that these cells are met with in the lymph channels.

We return to the intermediate bundles, above mentioned as constituting the ordinary bundle of fibres. Upon and partly enveloping these intermediate bundles, from point to point, in their course, are delicate cells, which, when seen in profile, appear like small spindles applied to the surface of the small bundle; some of them are actual spindles, while others are somewhat broadened plates which partly envelop the bundle (see Fig. 1). The existence of these cells has escaped the observation of nearly all investigators. Thin, I think, was perhaps the first to appreciate their significance. The direction of the spindles is, of course, parallel with that of the fibres. The ordinary bundles are, at intervals, partially invested with a form of flat

cell, which much resembles the tendon cell of Ranvier, and experiences analogous modifications in advancing from young to adult tissue. I recognize these cells as one form of the so-called corneal corpuscle; and there is strong reason to believe that the bands or ribbons of bundles are covered with a more or less complete investment of a single layer of endothelial plates, like that which limits the secondary bundles of tendon.

Fig. 2 represents an endothelial covering of a lamella in the cornea of a young kitten. I have been able, under favorable circumstances, to demonstrate the existence of similar endothelial layers between lamellæ in the normal adult cornea.

FIG. 2.

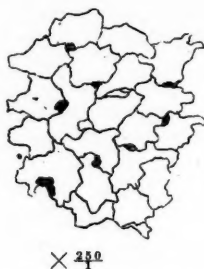
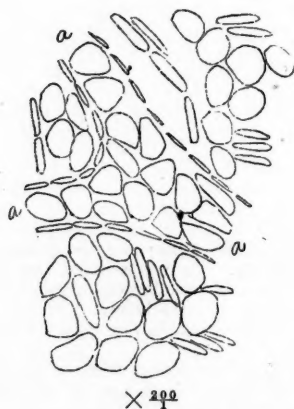


Fig. 3 shows, upon a lamella in the depth of the cornea of an ox, the effect of a solution of caustic potash in revealing the existence of the endothelial cells which line the sheath of a nerve (*a*), as also that of the endothelial cells covering the adjacent fibrous substance, and of the spindle cells above described.

FIG. 3.



As to the corneal corpuscle, so called, I have nothing to advance beyond the statement that it seems to be a living, contractile entity, of the nature and somewhat of the form of the ordinary connective tissue corpuscle, and to more or less completely fill a lymph space, which is necessarily more or less stellate, and in some instances seems to be a channel hollowed out of the semifluid, interfibrous cement substance; in other instances, merely a space left by imperfect apposition of bundles of fibres, whether they be those formed by the ordinary bundles constituting the bands, or by the bands and lamellæ themselves.

We now come to the consideration of the effects of inflammation in this structure. I shall ask your atten-

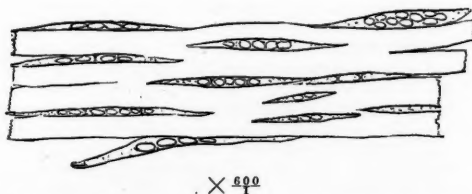
tion only to what takes place in a healthy reparatory inflammation, after a slight traumatism. Whether the animal selected for experiment be a frog, a cat, or a rabbit, the phenomena to be observed in a few hours are much the same. The method of exciting inflammation chiefly used was that of gently touching the centre of the exposed cornea with the point of a crayon of caustic potash or soda, and afterwards washing the eye. I should state in the beginning that most of the experiments were made in winter. The stick of lunar caustic was sometimes used, as also the white-hot needle, to produce the wound. At the end of three, twelve, twenty-four, forty-eight, or seventy-two hours, the cornea was treated with lunar caustic, either mitigated or of full strength, during the life of the animal; after the lapse of twenty minutes to three-quarters of an hour, the animal was killed, and the eye immediately removed and placed in slightly acidulated water, and exposed to light. At the end of one or two days, it was removed, the cornea excised, and split into thin lamellæ, or cut into thin sections, or otherwise treated. The sections were mounted in glycerine, and again exposed to light. Some pieces were teased with needles and stained in carmine.

Other preparations were made with osmic acid, with gold, and with various reagents. Examination of the earlier preparations showed, in the neighborhood of the injury, the presence of numbers of spindle cells, quite distinct, most of which had no visible connection with the so-called corneal corpuscles, which latter could be demonstrated at the same time as showing no other change other than that of multiplication of the nucleus and thickening of the processes. These spindle cells followed the course of the ordinary bundles of fibres, and frequently two, three, four, or more nuclei were visible in them, and they corresponded in position to the locations of the spindle cells existing in normal tissue.

Those intermediate bundles, which were not separated from each other by spindle cells, were, nevertheless, for the most part quite distinct and well shown.

The number of lymph corpuscles was not yet abnormal in this region, and the periphery of the cornea was not invaded by them, nor did this portion of it show signs of inflammation other than the slightest cedema (see Figs. 4 and 5).

FIG. 4.



At the end of forty-eight hours the appearances first noted were more marked; the spindle cells were more numerous, a long spindle had sometimes divided once or twice, and the stellate corpuscles in some places were still visible as before, and in much the same condition, except the number of their nuclei was greater, and sometimes the whole body of the corpuscle appeared to have divided into two. In other places, however, the location of the corpuscle was occupied by a more or less broad network in the place of the corpuscle, formed by polygonal, flat, endothelioid cells, with multiplying nuclei, and in some of these nets at the nodal point the remains of the stellate corpuscle could still be recognized upon or beneath the flat cells. In other spots more or less broad areas of the field were occu-

pied by similar endothelioid cells in a state of proliferation, but no networks, and still the remains of the corneal corpuscles were even now sometimes visible in addition, and were undoubtedly multiplying. Besides these elements, lymph corpuscles were intermingled with all in numbers considerably increased beyond normal, but yet far from constituting an abundant purulent infiltration. At the same time, in some preparations, especially those which showed but few of the endothelial cells, the limb of the cornea offered scarcely any more signs of inflammation than the first example.

FIG. 5.



In some older preparations, the inflammatory process gradually subsided, without an infiltration from the border of the cornea taking place. In others the injury had been sufficient to cause, when the animal lived long enough, a very abundant cell formation, and purulent infiltration, producing a mass of embryonal cells, in which neither the stellate corpuscles, nor the spindle cells, nor the endothelial cells, could be recognized as such.

From a study of these preparations in the light of the above advanced normal structure of the cornea, I am of the opinion that a slight injury of the cornea can be, and frequently is, repaired by the agency of the cellular elements normally in the tissue near the place of injury, and without any other assistance from the adjacent bloodvessels than an additional supply of blood plasma, and that the repair takes place by slight inflammation, through the stimulated activity of the spindle cells and the endothelium, as well as of the few lymph corpuscles normally present, as also of the stellate cells. I, therefore, most positively believe in the activity of the fixed cells of this tissue in the processes of destruction and repair, and at the same time admit as much for the lymphatic.

INFLAMMATION IN CARTILAGE.

Still pursuing the plan of introducing the pathological histology of the tissues in inflammation by a study of their normal constitution, I invite your attention to my understanding of the minute structure of the cartilages. These tissues have usually been described as presenting three main types, differing from one another in several particulars—hyaline cartilage, elastic or reticular cartilage, and fibro-cartilage. I will not review present opinions concerning the structure of the cartilages, further than by saying that hyaline cartilage is believed to consist of the usual more or less globular cartilage cell enveloped by a capsule, and imbedded in a ground substance or intercellular matrix, which is commonly

homogeneous or structureless; that in reticular cartilage there is the addition in the intercellular matrix of branching fibres, which resemble more or less closely elastic fibres in other locations; and that in the fibro-cartilages the intercellular matrix is occupied by bundles of common white fibrous tissue.

Returning to the hyaline cartilages, I desire to say to you that some of the writers of the last century entertained more correct ideas of the minute structure of this variety of cartilage when it covers the articulations, than do most authors of this day and generation, notwithstanding their improved microscopes and methods of study. I wish to say in the most positive terms that the hyaline cartilages covering the diarthrodial joints, as well as in most other locations, possess a ground substance or intercellular matrix, which in health is as decidedly fibrous in constitution as is that of the lamellæ between the bone-corpuscles of the osseous tissues.

The fibrous structure of the matrix of hyaline cartilage is ordinarily masked by an inter-fibrous cement substance, which has such a consistence as to ordinarily prevent the separation of the fibrillæ by mechanical means, and which in health possesses an index of refraction so nearly approaching that of the fibres as to cause it to be nearly impossible to distinguish the outlines of the fibres.

But there are certain methods of examination by which healthy hyaline cartilage can be shown to present the structure of fibrous tissue as it is found in other locations in the animal economy.

Various substances which have the power, by maceration, to soften and dissolve the interfibrillar cement of other fibrous tissues, and resolve the larger fibrous bundles into their ultimate fibrillæ, have the same potency when acting upon cartilage, although in a much lessened degree. With cartilage, more time, more patience, more perseverance, are required than with other tissues, if we would succeed in unravelling its intimate structure. Maceration in lime water, in baryta water, in permanganate of potash, in salt solution, will frequently demonstrate the fibrous nature of the intercellular matrix of cartilage. Treatment of thin sections of fresh cartilage by solutions of osmic acid, of chromic acid, will sometimes succeed in revealing, more or less completely, their fibrous structure. Spina recommends one of the most certain means of caus-

FIG. 6.



ing it to appear: The cartilage is to be plunged, when perfectly fresh, into very strong alcohol, where it is to remain for three or four days. At the end of this time thin sections are to be made while the tissue is still wet with the alcohol, and are to be examined under the

microscope while they are immersed in the same fluid. The alcohol should be absolute.

Figure 6 represents very inadequately the appearance of such sections under a power of four hundred diameters. These cuts included the substance of the cartilage upon the knee of an ox, and were from the middle portion of the thickness of the articular covering.

The prevalent direction of the fibrous bundles is well marked out, but the picture shows very distinctly the existence of some bundles which have been cut across more or less obliquely, and which observe a different course.

A striation of these fibrous bundles parallel with the direction of the latter, just as prevails in the bundles of other fibrous tissues, is quite definite. I wish to call your attention particularly to the bodies covered with innumerable delicate spines, which radiate from the surface of these bodies in every direction, and which, in some instances, can easily be seen to form a communication between adjacent bodies. Sometimes the intercommunicating spines fill the whole space of the field existing between the bodies, and in that case the straight fibrous bundles are so covered as to be with difficulty recognized. These bodies are the cartilage-cells, and they occupy the same relation to the bundles of fibres as that already indicated for the stellate cells of the cornea relative to the ordinary fibrous bundles of that tissue, and are the analogues of the connective tissue corpuscle of other tissues.

FIG. 7.

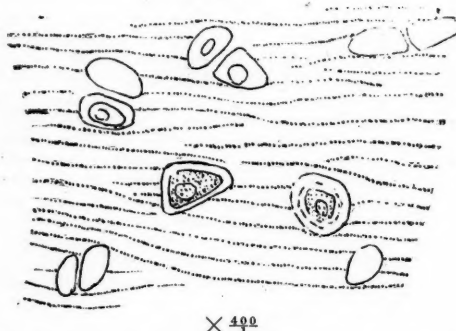
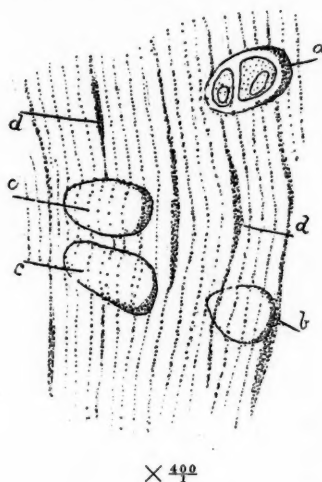


Figure 7 reproduces a sketch from a section through the cartilage of the condyles of the humerus of a young kitten. The knife passed parallel with the long axis of the bone, and the cut is therefore vertical to the surface of the cartilage. The preparation was made in the following manner. The joint was opened and the articular surface rubbed over gently two or three times by a stick of nitrate of silver. The animal was allowed to live for an hour, then killed. Immediately sections were made from the cartilage in the direction mentioned. These were mounted in glycerine and exposed to light. The action of the silver was found to have penetrated to varying depths and in varying intensities. The picture shows the marking seen a short distance below the surface. It is noticeable that the cartilage cells are not invaded by these lines, and that they rest upon the substance stained.

Figure 8 is from a knee-joint of another kitten, whose cartilage was treated in a similar manner. But the cut was made in the depth of the cartilage and transverse to the long axis of the bone. These sketches very poorly represent the beauty and clearness for demonstration of these and similar preparations. The magnifying power used in both was 400 diameters. In Fig. 8, as in Fig. 7, the field is marked out by the linear

deposits of the silver, and the distance apart of the lines is quite similar in the two instances. There is a marked difference between the two sections in one or two particulars.

FIG. 8.



At somewhat regular intervals the linear bands or bundles are grouped together into larger bundles, which include three, four, or more of the smaller bundles. These larger bundles are separated from each other by a more extensive and distinct silver deposit, and at certain distances along the surface of these larger bundles are seen indications of cells of considerable size, which give a spindle-form profile (d, Fig. 8). In one of the spaces for the cartilage corpuscle (a) the cells are present and quite distinctly shown. In the others they have fallen out of the space in which they probably existed, the section being extremely thin.

At c are two such spaces, which are empty. You observe that in these the smaller bundles can be seen to dip down and follow the curve of the floor of the space.

While discussing this figure, I wish to ask your attention to the crescentic deposit of silver (b) at one side of the wall of the space. Its significance I will speak of further on, when we reach the consideration of the nature of the so-called cartilage cells.

As a result of my observations upon hyaline cartilage, a few of which I have related, as well as of the published researches of a few investigators who have lately studied this tissue anew, I think I am fully warranted in claiming for the fibrous tissue, which normally constitutes it, an arrangement very analogous to that of other fibrous tissues.

Where the surface of the cartilage is covered with perichondrium, it is found that in the superficial portion of the cartilage the fibres of the matrix preserve an arrangement in the main very similar to that found in the perichondrium itself. That is to say, there are layers in which the fibres are more or less completely parallel with the surface of the perichondrium, and with each other, while the layer next above or below will have its fibres running in an opposite direction, but in the main still parallel with the surface. At the same time, just as in the perichondrium and in the periosteum, there are in hyaline cartilage also bands or bundles of fibres which dip down and enter, or pierce and continue on into the depth of the cartilage. The ultimate fibrillæ of the intercellular matrix, as in the

cornea, are grouped together in smaller bundles, which correspond to the small primary bundles of the cornea.

These primary bundles are marked out distinctly in Fig. 7. They are, I believe, more or less completely covered with small, flat, or spindle-shaped cell plates, just as was described for the cornea, although this is most difficult of demonstration ordinarily. Between them are the same linear spaces, as described for the cornea, which may be filled entirely by the peculiar cement substance of the matrix of the cartilage, or form the most minute radicles of the lymphatic system, which some investigators have succeeded in marking out by injections (Arnold among others), and which are the places of deposit of the minute particles of lime in calcareous degenerations.

These primary bundles are themselves grouped into larger or secondary bundles, which correspond to the ordinary bundles of the white fibrous tissue of authors. Their extent and relations are suggested in Figure 8, at *d*. By the crossing or linear apposition of such larger bundles, spaces of considerable size and varying shape are left. It is here that the so-called cartilage corpuscle, or its remains, is frequently to be found. The shape of the space in which the cell rests is consequently influenced by the direction of the fibrous bundles where it is located. It is true more especially where no capsule exists.

At the surface of articular cartilages, the prevalent direction of the bundles of fibres is that of parallelism with the surface. In the depth of the cartilage the bundles have a prevalent direction vertical to the surface. Between these two there is a portion of the thickness of the cartilage where the fibres form an intricate network or feltwork of transition from the one to the other, in which there can be said to be no prevalent course for the bundles.

Thin has affirmed the existence in hyaline cartilage of layers more or less complete of endothelial cell plates which divide the larger fibrous bundles into lamellæ or membranous layers. I have so far been unable to see indication of such an arrangement in the cartilages, except in two instances, where I found the familiar silver markings in the depth of the hyaline cartilage of the head of the tibia in a young kitten. Whether such a thing usually exists I am, from my own observations, unable at present to affirm or deny.

Now, as to the question of the so-called *cartilage cell*.

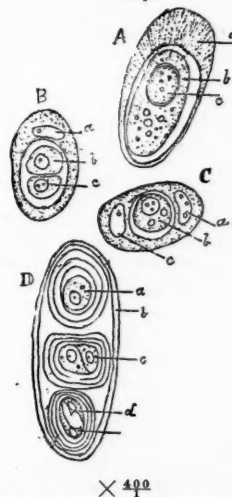
I am warranted in stating, with the same degree of positiveness with which I have spoken of the fibrous nature of the so-called "homogeneous, structureless, inter-cellular matrix of hyaline cartilage," that the cartilage cell known to authors is almost a perfect analogue of the connective tissue corpuscle found in ordinary fibrous tissues, as to its shape, its formation, and the morphological changes which it may undergo. In its history and evolutions and similarities, it is closely comparable with the fat vesicle on the one hand, and on the other hand with the connective tissue corpuscle, which, according to Klein, by a process of vacuolation and endogenous cell formation, gives rise to new lymph spaces, lymph capillaries, and lymph cells.

There are facts in the histology of the cartilages which, when rightly appreciated, are strongly suggestive of the true nature of these cartilage cells. I refer to the presence in the reticular cartilages of many animals, as a normal condition, of typical fat-cells, side by side with typical cartilage cells, while the same preparation in different places shows the familiar metamorphoses of both; to the normal presence of fat globules in many cartilage cells, and to the frequent transition, at the ossifying layer, of the cartilage cell into the fat vesicle of the medullary tissue.

Figure 9 shows a few of the changes which the car-

tilage cell frequently appears to have undergone. At *A* is represented a cartilage cell (*c*) of the hyaline matrix, of which the capsule (*a*) has apparently been recently formed, and consequently still preserves some of the indications of its constitution. The objects in this figure were seen under a magnification of 400 diameters. The edge of the cell is not quite in contact with the inner surface of the capsule; consequently, a space (*b*) remains, which may be called a pericellular lymph space. It does not always exist here, since frequently the outer surface of the cell is in contact with the capsule. Note that the capsule presents, in optical section, the outlines of a seal ring; and that in the thickened portion of this ring there is a striation of the substance of the capsule, radiating more or less accurately from the centre of the ring. Sometimes I have seen the continuation of these delicate lines from the inner surface of the capsule to the surface of the enclosed cell, which itself is frequently seen to consist of a network, or, more properly, a *feltwork* of minute fibres. On the other hand, I have occasionally observed the lines to extend outward, beyond the limits of the capsule, into the matrix, appearances which harmonize well with those of the cartilage corpuscles under alcohol, and with the striation of the capsule shown by the injections of Arnold and others.

FIG. 9.



At *B*, same figure, is a capsule still retaining the remains of a nucleus (*a*) in the thickened portion, and within which are two cartilage cells (*b*, *c*). At *C*, same figure, is an endogenous cell of the connective tissue of the mesentery of the rabbit, at the edge of a growing lymph nodule. The drawing presents an example of endogenous cell formation affecting the connective tissue corpuscle; *a* and *c* are two nuclei at either end of the elongated cell; at *b* is a fully formed cell within the body of the larger one.

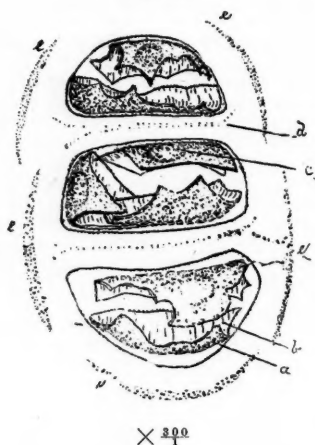
Figure 10 shows an elongated row of cartilage cells in the depth of the articular cartilage of the head of the femur of a kitten, after treatment with the solid silver salt in the manner already indicated.

Each of the so-called daughter capsules or spaces is occupied by two or more flat cells, with more or less irregular edges. They curve around the walls of the space in which they rest.

The outer surface (*a*) of these flat endothelioid cells shows a granular or linear constitution and takes the silver staining, while their inner surface (*b*) generally does not, unless the effect of this agent has been

very intense. A little outside the limit of the present capsule of each space are the remains of bodies (*e*) which have taken the silver staining in the same manner as has the external surface (*a*) of the flat cells in the spaces. I regard them as cross sections of the fossil remains of similar flat cells which once lined the inner surface of the mother capsule, whence descended the three series of cells constituting the row of cartilage cells here delineated.

FIG. 10.



The appearances shown in Fig. 10 are regular and almost uniform, for the vertical rows of cells in the articular cartilages, and a similar constitution is the rule even in other portions of the cartilage, where there do not yet seem to be daughter cells. Occasionally the spaces are completely filled by a cell which, if located elsewhere, could not be distinguished from a fat vesicle, and frequently cells or capsules are met with where its centre is either markedly encroached upon or completely occupied by a projection of the solid wall, thus greatly narrowing, or even entirely obliterating the space which the cartilage cells in part line.

What bearing does all this have upon the familiar appearances of cells in hyaline cartilage, and the variations which they offer?

That the capsules are produced by a senile change of the flat endothelioid elastic cell-plates which line the lymph cavities in which they rest. In other words, that the capsule is formed of one or more of such transformed elastic cell-plates; that it represents the protoplasmic envelope of a cell which has experienced changes similar to those of fat cells or of the connective tissue cells of Klein above alluded to, and has given birth to one or more endogenous cells with identical functions and tendencies. Like this cell of Klein, the protoplasmic envelope before, or instead of, suffering transformation at once into a capsule, may divide into two or more endothelioid plates, which may finally undergo vitrification into capsule. In this manner cells within cells and capsules within capsules can be formed, and, further, every trace of them be covered up or masked by senile changes into vitrified elastic cell-plates and by encroachment upon the lymph spaces in the way above suggested.

One more point, and I have done with the normal histology of this variety of cartilage.

From this endogenous cell formation, it may result at any stage that the centre of the lymph space is occupied by a *lymph corpuscle* which may remain indefinitely as a lymph corpuscle without evincing any

further tendency to the above evolutions. In this case the cell occupying the lymph space within the capsule really possesses a spheroid form.

With regard to the other cartilages, I have nothing further to add, beyond the statement that they are constructed upon the same general plan of fibrous or elastic tissues, to which, aside from the peculiar consistence which gives them the name of cartilage, they are so closely related.

As to the lymphatics of cartilage, I must admit, in the main, the descriptions of Arnold. The so-called cartilage cells lie in lymph spaces, which are in communication with each other and with the lymphatics of the perichondrium, on the one hand, and with those of the medullary spaces in the lines of ossification, on the other hand, through extremely minute channels which penetrate the cartilage capsules, and pervade the intercellular fibrous matrix. These channels are so minute that the lymph currents are extremely sluggish, and the lymph corpuscle in its entirety cannot pass through them. Whether they in life are occupied by extremely delicate filamentous processes or branches of the protoplasm of the cartilage corpuscle, as Elsberg and some others believe, I cannot tell. Such an hypothesis comes within the limits of possibility.

Gentlemen, I have thus minutely examined before you the normal histology of the cartilages because I deemed a thorough appreciation of their physiological conditions absolutely essential to a reasonable understanding of the processes by which the well-known pathological appearances in this tissue are brought about.

It is not necessary in these enlightened times for me to attempt to prove to you that a bona fide *inflammation* attacks non-vascular tissues, such as cartilage, although there are a few who yet delight in antique dogmas, and teach that where there are no blood-vessels there can be no *redness*, and consequently no inflammation.

What are the changes which inflammation induces in cartilage? It will be sufficient if we restrict this inquiry to the articular cartilages of movable joints, for the pathological alterations of this variety of tissue furnish a key to those wrought in the other varieties.

Being so far removed from a direct vascular supply, and having lymph channels which are so minute, the active changes, which injury inaugurates in the more vital non-vascular structures, are not so quickly developed in hyaline cartilage.

An acute arthritis affecting a diarthrodial joint, whether it is brought about by a direct traumatism which involves the cartilage, or is induced in the course of rheumatism, causes certain alterations in the structure of the cartilage, which must be recognized as the work of the inflammatory process. Not to speak here of the alterations in the synovial membranes, the following order of phenomena are usually observed in the cartilage: The spaces in the superficial layers, which normally contain only one, sometimes two, flattened, often blanching cells, lose the fat which they usually in some quantity contain, experience the cloudy swelling, a division of their nuclei, followed by division of the cell body and the production of daughter cells. At the same time the original lymph space changes shape somewhat by lengthening and widening, till it nearly approaches a spherical form. Meanwhile, the intercellular substance begins to reveal, by softening and alteration of the cement substance of the matrix, its real fibrous nature. If the irritation has been slight, and the succeeding inflammation correspondingly slow, the new daughter cells in the superficial spaces may form around them capsules in the manner indicated above, and if the irritation now cease the matrix

will return more or less completely to its apparently structureless state.

But if the inflammation continue or grow intense, the proliferation of the cartilage cells becomes too rapid for the generation of capsules around the newly formed cells. The cells must derive the pabulum necessary for their growth and activity from the adjacent matrix. The fibrous bundles are more and more loosened and softened until, at length, they become separated, and at various points have free extremities floating in the synovia of the articular surface. Primary capsules, containing broods of daughter cells, either surrounded by secondary capsules or remaining in direct contact, thus become emptied into the articular cavity. Frequently the primary capsule, if at first present, disappears in the softening process which affects the matrix, and its space is filled with a collection of cells which have become embryonal, and are undistinguishable from lymph corpuscles.

This process may be limited to the superficial layers, or may, in varying degrees, affect the deeper layers. But the chief difference is that, where the inflammation affects only the superficial, the separated and partially detached shreds of fibrous matrix are more or less parallel with the surface, whilst, on the contrary, if these layers are destroyed by the inflammatory process, and the deeper layers have become involved, the direction of the intercellular fibrous bundles is more or less vertical, circumstances which are readily understood if we revert to what has been said of the direction of the fibrous bundles of the normal matrix.

Oftentimes, in quite active inflammation, the cells of some primary capsules proliferate so rapidly that the intervening matrix is eaten away; adjacent spaces thus become fused, and their young cells mingled to form masses of embryonal tissue, which enlarge at the periphery by the continuation of the same agencies. In this manner, spots of the hyaline cartilage may be more or less completely transformed into connective tissue, or be eroded and totally destroyed. This is most frequently the case with portions of the cartilage most remote from the vascular supply, where the over-stimulated cells must necessarily derive the increased pabulum rapidly required to support their increased activity almost entirely by preying on the surrounding material. On the other hand, in those portions in the neighborhood of the vessels, unless the inflammatory action be quite intense, the tendency is to such a mild degree of growth and proliferation of the cellular elements, that hypertrophies or ecchondroses, instead of destruction, frequently result.

It is thus that in chronic rheumatic arthritis we often see new formation at the periphery of the cartilages, while at the centre we have destruction of the old tissue.

In cartilage of this kind we have a tissue in which the processes of destruction and repair must of necessity act, at least in some of the stages, almost, if not quite exclusively, through the agency of the cells belonging to the tissue itself. Inwandering cells are in the earlier stages out of the question. Aside from the necessities of the case, the cartilage cells can be seen to show the most indubitable evidences of proliferation, of a return to the potent embryonal state when there is no possible means of distinguishing them from the lymph cell of the blood, for which so exclusive a rôle has been claimed, beyond their isolated location. The same changes and activities which have been well nigh established for the connective tissue cell in the connective tissues so called, especially those which cover the peritoneum, can be followed out most perfectly in the endothelioid cells of cartilage, and under circumstances which make it next to impossible for the inwandering lymph cells or white blood corpuscles to interfere.

I therefore feel justified in claiming also for hyaline cartilage, as for the cornea, an exceedingly active and potent agency, in the reparatory as well as in the destructive inflammations which attack it, for all the fixed cells of this structure; and in denying any participation on the part of inwandering cells, in some cases from the beginning to the end of the disturbance of nutrition, in other cases until after the inflammatory processes have wrought great changes of structure.

ORIGINAL ARTICLES.

CASES OF UNUSUALLY HIGH DEGREE OF ACCOMMODATIVE SPASM; MYOPIA SIMULATED BY HYPERMETROPIC EYES.

BY GEORGE C. HARLAN, M.D.,

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SOME recent communications in the *MEDICAL NEWS* (Nos. 4, 5, and 8) revive the much-discussed question of hypermetropia in children, and may give a passing interest to the report of cases bearing upon the subject. We are met at the threshold of this discussion by the discouraging fact that there is no agreement as to what hypermetropia really is, or, at any rate, as to what degree of it is worth considering and by what standard it is to be estimated. Some of the best observers, following Donders, insist that an allowance should be made for the "tone" of the accommodation, and claim that no degree of hypermetropia within that allowance, which is unfortunately indefinite, should be considered. Donders says, "slight degrees of hypermetropia are in youth not even to be proved, much less to be reduced to their numerical value; indeed whenever a deficiency of refractive power exists in the eye, when in a state of absolute rest, it is supplied by the accommodation; and even if the eye, in paralysis of accommodation should be emmetropic, the tone of the accommodation alone effects a slight degree of myopia. Consequently, the actually emmetropic vision requires, in a certain sense, a minimum of hypermetropia, and that minimum is capable of no accurate determination, because to the tone itself a certain latitude, perhaps from $\frac{1}{10}$ to $\frac{1}{40}$, must be allowed.

"In this sense, and it is the only practically sound one, the majority of eyes of young persons are undoubtedly emmetropic." That is, they have a low degree of hypermetropia which is rendered latent by the accommodation and will appear as "acquired hypermetropia" at the age when accommodation ceases to be a factor.

It is true that, in hair-splitting accuracy, such a thing as emmetropia can not be said to exist, except as an unattainable ideal standard; but as we occasionally meet with patients who, in response to all our usual tests, have full vision which is not sharpened by the weakest concave glass before atropinization, or by the weakest convex glass after it, and as we have no means of determining where tone of the ciliary muscle ends and tonic spasm begins, may it not be better to eliminate the variable element of accommodation, and draw the line at mathematical emmetropia, considering all on one

side of it hypermetropia and on the other side myopia?

The question is further complicated, in addition to the powerful accommodation, by the high degree of retinal sensitiveness of the youthful eye, and the varying degree of mental quickness of children in recognizing letters with greater or less circles of diffusion, and no test of their refraction can be more than a rather rough approximation without atropia. Though either the test by glasses and letters or that by the ophthalmoscope often gives positive knowledge of the presence of hypermetropia without the use of a mydriatic, neither can be depended upon, in the case of young subjects, in proof of its absence. Dr. Loring, who of all men in this country, is not to be suspected of underrating the value of the ophthalmoscope, says, "candor compels me to declare that I can not consider the instrument as accurate a test as that by glasses." However this may be with older people, it is more than doubtful in the case of children, who are much more likely to relax their powerful and sensitive ciliary muscles under ophthalmoscopic examination than in endeavoring to distinguish the letters of the test types.

It was not my intention, however, to discuss this subject, but merely to give a few illustrations of what the ciliary muscle is capable of doing as a disturbing element in statistics of refraction. The simulation of a moderate amount of myopia by a hypermetropic eye, or the conversion of a low degree of apparent myopic astigmatism into hypermetropic astigmatism of the opposite meridian by atropia, is a matter of daily experience with every ophthalmic surgeon. Myopic astigmatism may even be simulated by an emmetropic eye, a refractive anomaly, the mechanism of which is not easily understood as it supposes a partial action of the ciliary muscle. The following cases offer nothing at all unusual in kind, and are interesting only on account of the high degree of accommodative spasm.

CASE I.—Must be the confession of one of my own mistakes, which has been a source of no little mortification. A school girl, eleven years of age, in good health, complained of short sight, the inconvenience of which was felt chiefly in reading music. Vision was $\frac{20}{40}$ and with $-\frac{1}{2}$ was brought to

$\frac{20}{15}$. Ophthalmoscopic examination confirmed the diagnosis made by test types and glasses; $-\frac{1}{4}$ was ordered for music and the result was considered by all concerned as highly satisfactory. Nearly four years afterwards the patient called again, and the following note was made, "has worn $-\frac{1}{4}$ for music only; has noticed in the last year that distant vision is not so good and that she has a tendency to stoop in reading—no asthenopia but some pain back of balls lately, which she thinks is not evidently connected with use of eyes." Vision was in the right

eye $\frac{20}{80}$, brought with $-\frac{1}{2}$ to $\frac{20}{30}$; in the left $\frac{20}{80}$, ($\frac{20}{50}$) brought with $-\frac{1}{6}$ to $\frac{20}{30}$. By the ophthalmoscope $-\frac{1}{8}$ was diagnosed in the right eye and emme-

tropia in the left. Atropia revealed a hypermetropia of $\frac{1}{8}$ in the right eye and $\frac{1}{8}$ in the left, and correction gave full vision.

CASE II.—Imposes the less unpleasant task of recording the mistake of a widely known ophthalmic surgeon of another city. It is that of a young lady of sixteen years, who stated that she had always been short-sighted, but had grown worse of late. Three years ago concave glasses had been ordered for her, which she had not with her, but which, from comparison with those of her father, who is myopic, must have been about $-\frac{1}{2}$. She had struggled on, reading sometimes without glasses, sometimes with her own, and sometimes with her father's, but always painfully. She had suffered much from frontal headache, and on numerous occasions it had been necessary to take her from school for periods of complete rest. In the right eye vision was $\frac{20}{80}$, brought by $-\frac{1}{2}$ to $\frac{20}{30}$; in the left $\frac{20}{40}$, brought

by $-\frac{1}{8}$ to $\frac{20}{30}$. The ophthalmoscope showed emmetropia in both. After complete atropinization, a hypermetropia of $\frac{1}{8}$ was found in the right eye and of $\frac{1}{8}$ in the left, and these glasses gave $\frac{20}{20}$. $+\frac{1}{8}$ was ordered for the right eye and $+\frac{1}{8}$ for the left. She wore these constantly, and the asthenopia and headache entirely disappeared.

CASE III.—A rather delicate and nervous girl of thirteen, stated that she had always been short-sighted, but had grown worse of late. Vision in each eye was $\frac{20}{100}$, brought to $\frac{20}{80}$ by $-\frac{1}{8}$. By the ophthalmoscope the myopia was estimated at $-\frac{1}{8}$. Atropinization revealed a hypermetropia of $\frac{1}{4}$.

An interesting point in all these cases is that the apparent myopia was not the result of a mere temporary spasm from disturbed innervation, but was continuous for years; in fact, seems to have been a permanent condition during the life of the patients.

COLLATERAL CIRCULATION IN A CASE OF CIRRHOSIS OF THE LIVER.

BY R. B. MOWRY, M.D.,
OF ALLEGHENY, PA.

THE following case is of such rare occurrence as to entitle it to a place on record:

On January 7, 1881, I was invited, in consultation with Dr. F., to see Mrs. K., a married woman, aged forty-eight, the mother of nine children. Menstruation had ceased four years previously, and she had had good health until some time in the summer before, when her abdomen began to enlarge. She was attended by Dr. H. Enlargement of the abdomen increased; ascites was diagnosed; and on November 5, 1881, she was tapped, and a large quantity of fluid was drawn off. Her abdomen soon began to fill up. She became dissatisfied with her attending physician, and Dr. F. was called in, who invited me to see her with him.

At this time she was quite emaciated; tongue clean; appetite good; bowels acting normally; urine very scant, and red from a small quantity of

blood; no semblance of jaundice; on the contrary, conjunctiva perfectly clear; heart's action normal; lungs normal; the abdomen enormously distended; no oedema. Her husband testified that she always seemed to eat with a good appetite. She had no particular pain, and suffered only from the discomfort of the abdominal distention.

Her general health seeming so good, and as we could not examine the liver in her present condition, our diagnosis was between ascites and cystic dropsy. Percussion did not elicit resonance in any position, except along the posterior sides of the abdomen and the epigastric region; but there was an umbilical opening, about two inches and a half in diameter, from which protruded a translucent tumor. We supposed that it might be a mixed case, with enough fluid in the cavity of the peritoneum to produce the protrusion.

After a few days we were compelled to tap, both to relieve the great distension, and clear the diagnosis. Three and one-half gallons of straw-colored fluid were drawn off. We could then feel distinctly the hard and rather sharp border of the left lobe of the liver projecting somewhat below the ribs, and also that there was some induration of the right lobe to be felt under the cartilages; on percussion, dulness did not extend above the normal line.

Thus was confirmed ascites from obstructed portal circulation, and this obstruction from indurated liver, and because this woman had been a habitual beer drinker for many years (never drank distilled liquors), it was most likely cirrhosis. About this time Dr. F. was taken sick, and the case was left entirely under my care.

From February 3 until October 11, inclusive, she was tapped twenty-six times, making in all twenty-nine times. In the meantime her lower limbs had become very oedematous, the oedema extending over the abdomen, thickening the parietes so much as to make tapping a painful operation.

I then began to use a small trocar through the umbilical opening, which, contrary to my fears, answered a good purpose; the thin covering of that part, instead of ulcerating and leaving a permanent opening, closed kindly and grew in toughness; so that at the present time the opening is closed with thick integuments, and very much resembles a large normal umbilicus.

The fluid evacuated at each tapping did not diminish much until the 6th of August, when it was considerably less, and slightly tinged with blood. From August 6 until October 11 she was tapped six times, the fluid continuously diminishing and the oedema becoming less; the urine increased and became more normal in character. The last two tapings were done at her urgent solicitation. Her mind had become fixed in the belief that her recovery depended on this operation, and it could be so easily performed through the umbilical opening, that I was fearful, if I did not gratify her, she might herself make an opening.

At this date, April 6, there is no sign of ascites, oedema entirely gone, legs quite thin, appetite good, urine normal in quantity and quality.

Her skin had been dry and furfuraceous; the scalp

very much so; but with the application of a liniment, of which cod-liver oil formed the principal ingredient, her skin has greatly improved. She sleeps pretty well, and attends somewhat to her household duties, and believes herself to be getting well in spite of the doctor's grave prognosis.

The interest of this case is altogether in the wonderful provision of nature, in affording relief by setting up collateral circulation. Such cases are spoken of in systematic treatises on diseases of the liver as of very rare occurrence.

Frerichs says, "After the disease (cirrhosis) is fully developed, the termination is always unfavorable. The complete destruction of the glandular substance cannot be repaired in any way; and it is only under favorable circumstances that the collateral channels compensate for the obstructed circulation through the portal vein. It is possible—yea, probable—that by this last means the functional derangements compromising life may be relieved, and that in the slighter forms of hepatic degeneration a cure, though imperfect, may ensue."

It is not necessary to explain how this collateral circulation may be established; any one who will take the trouble to examine the anatomy of the venous system will find that it is both internal and external.

HOSPITAL NOTES.

BOSTON CITY HOSPITAL.

(Service of GEORGE W. GAY, M.D.)

BULLET-WOUND OF NECK—TRACHEOTOMY—HEMORRHAGE FROM THE VERTEBRAL ARTERY—DEATH.

(Reported by ROYAL WHITMAN, Surgical Internec.)

THE patient, a Chinaman, having attempted suicide by shooting himself in the mouth, was brought to the hospital March 24, 1882.

Examination showed the point of entrance of the bullet in the median line of the dorsum of the tongue, about one inch from the tip. The probe could be passed in a direction downwards and backwards for about one inch. The tissues of the inside of the mouth were blackened with powder, and the clothing about the neck was saturated with blood. The patient was perfectly calm and answered questions intelligently, and did not appear to be suffering from shock.

During the next few days there was much induration and tenderness about the left side of the neck, accompanied with considerable pain. There was also inability to move the left shoulder or arm, probably from injury to the brachial plexus; otherwise he was in good condition.

On the 30th inst. the patient did not appear to be as well, and the induration being more localized, the Visiting Surgeon (Dr. Geo. W. Gay) decided to make an attempt to extract the ball.

The patient was etherized and turned upon his right side. An incision was then made about three inches in length, commencing at about one and one-half inch to the left of the atlas, and extending downwards in the line of the sterno-mastoid muscle. The dissection was continued inward, coming directly upon the bullet, which was lying in the tissues immediately above the transverse process of the third cervical vertebra, and it was extracted.

It was then noticed that the patient was becoming cyanotic and the breathing, which was superficial in character, entirely ceased. The jaws were forced open, the tongue drawn forward, subcutaneous injections of

brandy and ether given, and artificial respiration performed without effect. Dr. Gay then immediately performed tracheotomy, and inserted a large silver catheter into the trachea. Upon blowing through this, a large quantity of blood, which had collected in the lungs, was ejected. The lower extremities were then elevated, allowing the blood to run out. The lungs were then regularly inflated, in connection with the artificial respiration which had been continued. The patient then commenced to breathe and the pulse returned. A large trachea-tube was inserted, and the original incision in the neck was explored. Several small spiculæ of bone were extracted, and at the bottom of the wound a larger loose fragment appeared. This was carefully extracted with forceps, but its removal was followed by a profuse gush of arterial blood, evidently from the vertebral artery.

The wound was tightly packed with sponges, which controlled the hæmorrhage. Taking into consideration the position of the wound, the swelling of the tissues of the neck, the presence of a tube in the trachea, and the exhausted condition, ligature of the vertebral artery was postponed.

The patient was placed in bed and a current of hot steam was passed constantly across the opening in the trachea. The tube was removed in twenty-four hours, and for the two succeeding days the patient was very comfortable, taking nourishment well. The sponge-packing was soaked with carbolic solution, and did not appear to inconvenience the patient.

On April 3 he developed symptoms of an acute bronchitis, and pleuritic friction sounds were heard on the left side. April 4 the patient was much worse; respiration rapid and gasping; temperature, 107.8°; failed rapidly, and died during the A. M.

Autopsy twenty-eight hours after death: At the base of the tongue, about three inches from the point of entrance, was the point of exit of the ball. It had then passed across the pharynx, and, striking the body of the third cervical vertebra, had glanced and completely shattered the transverse process, obliterating the vertebral canal. There were thromboses in the vertebral artery and vein, which had been injured by the bullet. There was some infiltration of pus in the pre-vertebral tissues; also an acute bronchitis, and an acute pleurisy on the left side, these affections being apparently the direct cause of death.

Remarks.—This case is interesting for the following reasons:

1st. A bullet shattering the vertebral canal and injuring the vertebral vessels, not followed by immediate hæmorrhage, which, if it had occurred, would have caused death, as it would have been impossible to discover its source.

2d. Internal hæmorrhage occurring during the administration of ether, with collection of blood in the lungs, causing cessation of respiration and extreme cyanosis, and from which death would have resulted but for the rigorous measures adopted.

3d. The violent external hæmorrhage following the removal of a portion of the transverse process, completely controlled by sponge-pressure.

MEDICAL PROGRESS.

THE RELATIONS OF BIZZOZERO'S CORPUSCLE TO COAGULATION OF THE BLOOD.—DR. FANO has found numbers of the corpuscles described by Prof. Bizzozero in blood prevented from coagulation by the injection of peptones. Peptonized blood will coagulate when treated with water or carbonic acid, and the process may be readily watched under the microscope. When the plasma of peptonized blood is separated from the red corpuscles, numbers of Bizzozero's corpuscles, as well

as the white cells, are readily detected, and when examined under a high power, after dilution with water, in about half an hour a fibrous network gradually forms from star-like points, whose rays form the network, while their body is composed either of Bizzozero's corpuscles, or, more often, of the white blood cells. When peptonized blood is allowed to coagulate by diluting it with water, and then examined, numerous heaps of unaltered *plättchen* are found, having no connection with the fibrinous network. When peptonized plasma was allowed to stand without any addition, for two or three days in a cold room, very often a very small clot would form, few *plättchen*, but numerous white corpuscles still remaining in the plasma. When this plasma was diluted or treated with carbonic acid, it still was able to form a clot, evidently due to the leucocytes, which was much larger than the one which formed spontaneously. When lymph containing no *plättchen*, and not spontaneously coagulable, is drawn from peptonized dogs, it still will coagulate on the addition of water, or by treating with carbonic acid. Dr. Fano believes, that although the connection of the *plättchen* with coagulation cannot be denied, they exert a much weaker influence than the white blood-corpuscles.—*Centrab. f. d. Med. Wissen.*, March 25, 1882.

FRAUDULENT SUBSTITUTE FOR GLYCERINE.—In the *Union Médicale et Scientifique du Nord-Est*, for March, 1882, Prof. LAJOUX points out a fraudulent substitute for glycerine which has been introduced into the French market. The ordinary physical characters of the liquid closely resemble a fine specimen of glycerine; it, however, has a bitter taste, due to an impure sulphate of magnesium, and contains glucose. Quantitative analysis showed that the preparation was simply a saturated solution of sulphate of magnesium, with one hundred and sixty grammes of glucose to the litre, to disguise the taste of the salt.

TREATMENT OF DIPHTHERITIC CONJUNCTIVITIS.—VOSSIUS, *Klin. Monatsbl. f. Augenheilk.*, November, 1881, recommends the employment of salicylic acid dissolved in glycerine (four per cent.) as a local application. A case of diphtheria of the conjunctiva, associated with the same condition of the fauces, was rescued by its means from an apparently hopeless state, after aqueous solutions of carbolic, salicylic, and boracic acids had been used without benefit. The glycerine solution was painted on the conjunctival surfaces every half hour; an immediate reduction of the swelling of the lids and the chemosis set in, and a large ulcer, which threatened total destruction of the cornea, healed.

Bose, of Giessen, had obtained marked success with this remedy in the treatment of diphtheria of the throat and of wounds.—*Ophthalmic Review*, April, 1882.

HOW TO DISTINGUISH SALIVA-SPOTS IN CLOTHING FROM OTHERS OF SIMILAR APPEARANCE.—DR. CERVERA (*Cron. Med.-Quir. de la Hab.*) gives a simple mode of distinguishing salivary stains from spermatic and others of similar appearance with which they may be confounded. This distinction is often of importance in medico-legal cases. The piece of cloth containing the spot is by capillarity moistened with a saturated solution of ferric chloride; chemical reaction will give rise to a blood-red color in the case of saliva, but not in stains due to other fluids. Parotid saliva, especially after meals, contains the sulpho-cyanide of potassium, a substance which strikes an intense red color in contact with ferric salts, although these may be present only in minute quantity. Such reaction does not take place in the case of pus, nasal or vaginal mucus, spermatic or gonorrhœal fluid.—*Druggists' Circular and Chem. Gaz.*, April, 1882.

LIMITED ATROPHY OF THE HEART.—O. HJELT relates, in *Finsk läkarsällsk. Handl.*, Band xxii. (*Nord. Med. Archiv*, Band xiii., Häft 4), the case of a man aged seventy-nine, who, about four and a half months before his death, began to complain of pain in the chest. From this time, there was increasing dyspnoea, and at the same time the legs first and then the whole body began to swell. On his admission into hospital, the heart's beat was irregular; the sounds were weak, but clear; the pulse was small, soft, about eighty; the urine was dark in color, scanty, and slightly albuminous. At the necropsy, the heart was found to be fifteen centimetres (about six inches) long and sixteen centimetres broad, semilunar in form, with an obtuse apex, formed of both ventricles. The left ventricle was large; its muscular structure in front had an uniform pale-brown color, and was two and a half centimetres (one inch) thick; on the other hand, the posterior and upper part of the ventricular wall was only one centimetre thick, and was pervaded by firm grayish-white bands of connective tissue, which almost entirely replaced the muscular structure, and projected internally in the form of a firm network surrounding the delicate trabeculae. The pericardium at this part was thickened. The posterior papillary muscles were small and atrophied; the anterior were large. The chordae tendinae were of usual thickness. The left auriculo-ventricular orifice was somewhat dilated, and the mitral valve was thickened at the apex. The aortic and semilunar valves were normal. The right ventricle was also dilated, and its wall thickened. The valves were normal. The left coronary artery was sclerosed. The right coronary artery contained, about four centimetres (1.4 inch) from its origin, a firm, red, firmly adherent thrombus.—*London Med. Record*, March 15, 1882.

CÆSAREAN SECTION.—A successful case of Cæsarean section, after five days' labor, in a primipara aged forty-two, with a conjugate diameter of five centimetres is reported in the *Weekblad v. Geenerkunde*, No. 25, 1881. The abdominal wound was made in the linea alba, and extended from the navel to the mons veneris; the uterus and placenta were cut through and the living child extracted by the feet. After removal of the placenta, the profuse hæmorrhage soon ceased; on account of its rapid contraction, sutures of the uterus were not required. The abdominal wound was closed with carbolized silk sutures: perfect recovery without any reaction occurred in three weeks.—*Deutsche Med. Wochen.*, March 18, 1882.

ANTE-PARTUM HOUR-GLASS CONTRACTION OF THE UTERUS.—From a careful study of this subject, DR. THOS. C. SMITH summarizes his results as follows:

1. A true "hour-glass" contraction of the body of the uterus, tetanoid in character, occurs during labor, and adds greatly to the difficulties and dangers of the parturient act.

2. In some cases this contraction may be felt through the abdominal wall, which fact should induce physicians to resort more frequently to abdominal palpation in labor cases.

3. Clinical facts demonstrate that the segment of the uterus below the stricture is in a relaxed condition, and only in exceptional cases is thinning thereof to be recognized.

4. Owing to the lack of harmony in the opinions of anatomists regarding the structure of the uterus and its cervix, hypotheses based upon assumed anatomical evidence, and unsupported by clinical observations, are not entitled to the weight of authority at this time. In this category are to be included the theories of Bandl and Hosmer.

5. The treatment of cases belonging to the class re-

ferred to in this paper must be determined by the special peculiarities belonging to each, until further observation and experience shall justify the formulation of a rule of general application; but it is proper to state that the performance of the Cæsarean operation does not seem to be justified because of the existence of the stricture *per se* for the reasons already given.—*Amer. Journ. of Obstet.*, April, 1882.

UNSUCCESSFUL CASE OF EXTIRPATION OF THE UTERUS BY ABDOMINAL SECTION FOR CANCER.—DR. A. REEVES JACKSON reports in the *Western Medical Reporter*, for April, 1882, a case of cancer of the uterus occurring in a woman aged thirty-four, for which Freund's operation of extirpation was performed. Death occurred on the sixth day from peritonitis, commencing apparently in the pelvis and extending to the abdomen. Extensive deposits of fresh lymph were found attaching the intestinal folds to each other, and the stump of the left broad ligament was gangrenous. A collection of sanious pus was also found in Douglas' cul de sac behind and below the vaginal opening—the latter being found at a higher point in the pelvis than it occupied at the close of the operation. The presence of this retained fluid, which amounted to more than an ounce, proved that, in some cases at least, drainage through the upper portion of the vagina is not of itself sufficiently complete in a patient lying on the back to be relied upon. It is possible that, had an efficient system of irrigation been adopted in this case, the result might have been more favorable.

SUCCESSFUL CASE OF NEPHRECTOMY FOR SARCOMA.—At the meeting of the Royal Academy of Belgium, held January 28, 1882, M. HICQUET read notes of the following case of nephrectomy for sarcoma of the left kidney, occurring in a girl six years old. In February, 1880, pain in the left flank was complained of, and on examination a tumor of the size of a turkey's egg was detected. In spite of various modes of treatment this tumor continued to grow, and in August, 1881, it occupied the entire left hypochondriac region, and the entire left, and part of the right, ventral region, extending into the left iliac fossa. The tumor was ovoid, firm, resistant and smooth; it was diagnosed as a sarcoma of the left kidney. The operation was performed on the 10th of September, under antiseptic precautions, the spray being omitted. The abdomen was opened, and the tumor exposed by an incision extending from the xiphoid cartilage to three fingers' breadth below the umbilicus. The parietal peritoneum covering the tumor was incised one centimetre to the outside of the transverse and descending colon, which passed in front of the diseased kidney, and the tumor enucleated and removed after double ligation of the ureter and renal artery and vein. A large drainage tube inserted in the wound and drawn out at the left flank served to carry the discharges outwardly. The patient left the hospital on October 16th, perfectly cured, and up to January 24th no symptoms of return of the disease had appeared.—*Journ. de Méd. de Paris*, March 4, 1882.

INTRA-CRANIAL CIRCULATION DURING STOPPAGE OF THE HEART.—M. FRANCK has made an experiment which completely destroys the classical theory of Richet, as to the function of the cephalo-rachidian fluid in cerebral anæmia, consequent to arrest of the heart. It is generally admitted that the cerebro-spinal fluid oscillates from the cerebral into the spinal cavity at each cardiac pulsation, occupying the cranium during cardiac diastole and flowing into the vertebral chambers when the cerebral vessels are distended during the cardiac systole. M. Franck placed an elastic ligature around the membranes of the upper

part of the spinal cord, and, the heart being stopped, he noticed after trepanning the skull, instead of a retraction of the brain, a sort of tumefaction with intense congestion of the veins and considerable blood pressure. Arterial anaemia, therefore, is accompanied by venous congestion. So the retraction of the cerebral bulk, produced by diminution in calibre of the arterioles, is compensated for by venous congestion, and not by the afflux of cerebro-spinal fluid.—*Progrès Méd.*, April 1, 1882.

EXTIRPATION OF THE UTERUS AND KIDNEY.—DR. STARCK, of Dantzic, reports a remarkable case of cancer of the uterus in a woman forty-two years old, in which total extirpation of the uterus was practised through the vagina. During the operation it was found that the right ureter was also involved in the disease, and a portion of it was excised. The upper end of the remaining portion of the ureter was too short to bring down to the vagina, and it was impossible to find its lumen so as to insert a canula to draw off the urine, it was therefore ligated, as it was concluded that there must be only slight functional activity in the right kidney, in order to give the patient a chance to recover from the shock of the first operation before submitting to the equally severe one of nephrectomy. After six days, the right kidney was removed without difficulty through the lumbar incision, and at the end of three weeks the patient was discharged cured.—*Berliner klin. Woch.*, March 20, 1882.

CYST OF THE CRANIUM: CEREBRAL COMPRESSION: RELIEF BY OPERATION.—This case, reported by M. AUBERT, in the *Lyon Méd.*, No. 32, 1881, has a special interest from the influence which the cure of the cyst had on the intelligence of the patient, in consequence of the raising of the bony table. The cyst, about five centimetres in diameter, consecutive on a blow received upon the head twenty years previously, was situated in the lateral portion of the right frontal region, half in the hairy scalp, half in the free portion of the forehead. Opened by thermo-cautery, after an exploratory puncture, it gave issue to a yellow liquid containing crystals of cholesterolin. The bed of the cyst was formed by a depressed bony wall. The wound was washed out with carbolic acid and dressed with boracic lint, and precautions were taken to delay union. The bony table rose by degrees, and, at the end of about two months and a half, it was at the same level as the frontal surface. From that moment the patient, who was a married woman about fifty years old, and had no memory at all for the ordinary occurrences of life, and was extremely negligent in all the cares of her household, rapidly became a careful, attentive housewife. This change was so marked and so sudden, as to be noticed by every one who was in the habit of seeing the patient.—*London Med. Record*, March 15, 1882.

TUBERCULOSIS OF THE EYELID.—At the meeting of the Société Médicale des Hôpitaux, held on February 10, M. GÉRIN-ROSE presented a patient with tubercular granulations on the eyelid. He had a history of hæmoptysis, and had some time before received hospital treatment for the functional symptoms of phthisis, of which, however, no physical signs other than traces of tubercular laryngitis had been detected. He had lost a brother from tuberculosis. The patient, after an interval of good health, re-entered the hospital in last November; laryngoscopic examination showed the vocal cords tumefied, but not ulcerated. Fifteen days after admission, loss of resonance was detected at the left apex with arthritis of the left elbow-joint, probably tubercular in nature. The right eye also became red and inflamed, with profuse lachrymation, and on elevat-

ing the upper lid, it was seen to be the seat of ulcerative conjunctivitis and granulations of tuberculous nature.—*Bull. Gén. de Therap.*, Feb. 28, 1882.

HOOR-GLASS UTERINE CONTRACTION TREATED WITH NITRITE OF AMYL.—DR. FANCOURT BARNES states that, on February 28, he was called to a patient with retained placenta. On his arrival, he found that the patient, a secundipara, aged twenty-two, had been delivered naturally at three o'clock in the morning of a living female child. The midwife stated that she sent for him, because she had been unable to deliver the placenta. On examination, he found that the umbilical cord had been separated from the placenta. The external os uteri was quite dilated, as was the cervical cavity; but the os internum and the circle of muscular fibres above it, called Bandi's ring, the chief seat of hour-glass contraction, were firmly contracted, and only admitted a finger, by which the placenta could be felt in the uterus. He then learned that the midwife, hoping to accelerate the third stage of labor, had given the patient a dose of ergot as soon as the child was born. He found it impossible to get his hand into the uterus to deliver the placenta. Bearing in mind the remarkable power which nitrite of amyl possesses in relaxing tension in the bloodvessels, he determined to test its action on the uterine spasm. The patient had three drops of the nitrite of amyl given her on a handkerchief to inhale, by Mr. Lingard. During the inhalation, the ring of muscular fibres round the os internum, which had been so rigid as to be absolutely undilatable, steadily yielded, until he could pass the whole hand into the uterus and detach the placenta, which was universally adherent. There was no hæmorrhage whatever, and the placenta itself presented a remarkably exsanguine appearance.—*Brit. Med. Journ.*, March 18, 1882.

IODOFORM IN OPHTHALMIA NEONATORUM.—Encouraged by the statements made at the Heidelberg Ophthalmological Congress, of the utility of iodoform ointment or powder in affections of the conjunctiva with profuse discharge, DR. LANGE, of the St. Petersburg Ophthalmic Institution, made trial of it in the treatment of ophthalmia neonatorum in six infants, employing at first no other means except water for cleansing the eyes, in order to be sure of the results obtained. These results were most unfavorable, so that other measures had to be adopted. Iodoform, in fact, is not only an application of no utility, but one attended with danger. This chiefly arises from the extraordinarily rapid growth of granulations, which speedily fill the conjunctival sac, and exert most injurious pressure on the cornea.—*Med. Times and Gaz.*, April 1, 1882, from *Petersb. Med. Woch.*, March 18.

OZONE AS AN ANÆSTHETIC.—The toxic effects of undiluted oxygen have long been known, and we now learn from the *Berlin. Med. Zeitung* that PROF. BINZ, of Bonn, has been experimenting on ozone produced by the silent discharge and mixed with air as an anæsthetic. The effect on small animals was very marked; the breathing, at first unquiet, became less frequent until a state of stupor was produced, but without any appreciable action on the heart. Pushed further, it caused considerable depression of the temperature and irritation of the air-passages, with vomiting. Human beings were variously affected, but sleep was generally obtained in from seven to twenty minutes, being preceded by greater ease in breathing. The sleep was deep, and followed by a sensation of weariness, lasting some minutes. Further experiments, however, showed that, though not so irritating as hitherto believed, it would be quite impossible to replace nitrous oxide by ozone as an anæsthetic.—*Med. Times and Gaz.*, April 1, 1882.

THE MEDICAL NEWS.

A WEEKLY JOURNAL
OF MEDICAL SCIENCE.

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SATURDAY, MAY 6, 1882.

REMOVAL OF THE UTERINE APPENDAGES.

We can conceive of nothing more radical in the way of treatment than the removal of the uterine appendages for the relief of symptoms. It may be called the therapeutics of surgery, in which its aid is enlisted against functional, not organic, errors, thus giving to the surgeon a higher or lower relation to the art of medicine, according to the point from which it is viewed. It is customary, but not in the best of taste, to call the operation Battey's, and it is significant of the temperament of modern surgery, that Dr. Battey escaped some of the misfortunes of the pioneer. Surgery is now tolerant of everything new in the way of procedure, and for this surgery may thank gynecology. Operative gynecology has passed each barrier that has restricted traditional surgery until now it has invaded womanhood in its innermost place, and no voice is lifted up to reassert the old dogmas that opposed ovariectomy and anæsthesia in their early days. One may now propose ovariectomy, normal or otherwise, for hysteria, mania, or masturbation, and feel sure of a good following.

The presence of woman's reproductive organs is not essential to life. In all that relates to her abstract being they are redundant organs, and in this relation have no title to consideration. If they have any claim to respect, it is a higher one than mere animal existence. Reproduction *in posse*, or *in esse*, is the underlying reason for her existence as a woman that claims attention. This claim is purely a sentimental one, but not from any feeling for woman as a weaker being. Sentimentality of this kind has been lived down out of respect for woman herself.

Although but little more than a generation ago an ethical view like this was potent in forming conclusions. Ovariectomy contended with it and mastered it by the slow logic of facts. Artificial anæsthesia had to live it down; and the speculum itself fought against it upon a battle-field that it may not even yet call its own.

While we may feel inclined to smile at moral considerations so subtle that they may be akin to that tender feeling that would make one forbear to pluck a flower, modern gynecology has drawn a still finer metaphysical line. This idea exists in the potency of human suffering; that moral and physical pain has a claim to assuagement before which every other feeling must give way. To this end function, structure, and reproduction *in posse* offer no insuperable obstacle. In analyzing the cases of removal of uterine appendages reported by Mr. Lawson Tait in the last January number of the *American Journal of the Medical Sciences*, we find at least three cases in which the natural sterilization incident to age would have probably effected a spontaneous cure; and yet, as we examine the histories more closely, we cannot say that Mr. Tait in any way went beyond the moral barriers of his art in order to give relief. In this relation the singularly ill-named "normal ovariectomy," for a very rare group of cases may be a legitimate procedure.

We must leave metaphysical refinements behind when we view the removal of the uterine appendages in its relation to the palliative treatment of hæmorrhage due to uterine myoma. The extirpation of these new growths is not rarely attended with difficulties and danger to the life of the subject that are exceeded by hardly any other operation in pelvic surgery, while either blood-poisoning or hæmorrhage is sure to destroy life unless their career is arrested. If, then, we have in removal of the uterine appendages a means of checking growth and controlling hæmorrhage, it will certainly be received as an improvement. Mr. Tait and others, both in this country and on the continent, have placed it almost beyond a doubt that the election of this operation over the difficult and risky enucleation is the better choice in many cases.

Mr. Tait's clinical histories bring out some singular facts. It is not easy to understand why removal of the ovaries, without the tubes, will not afford as certain relief against hæmorrhage as when the latter are included; but such, he states, is the fact, and an extirpation for this purpose ought to include both. Perturbations in the central nervous system, due to the enforced climacteric, were, in many of the thirty-one cases reported, quite marked. It seems that, whatever may be the loss of nerve energy from pain and hæmorrhage, there is yet a surplussage in reserve for ovulation, which shows how profound are

the nervous unities existing between the reproductive organs and the higher nerve centres. Another fact brought out will unsettle old notions. In two cases coitus, for the first time in the histories of the subjects, gave its typical satisfaction after removal of the ovaries.

The operation has been done often enough to afford grounds for the belief that but a low rate of mortality may be expected. As a means of treatment in cases of functional disturbance, which are usually but instances of exaggerated hysteria, it is probable that much time will be required before the operation can be given its proper status. In this relation it must be treated empirically, and take its chances with any drug that may be proposed for the same disease. As the operation is not always easy to perform, or wholly free from danger, it will be an exceedingly delicate point for the surgeon to decide upon its fitness as a remedy.

Here we cannot forbear to refer to some of the social aspects of ovariectomy, never, so far as we know, spoken of before. We remember to have heard Dr. Graily Hewitt say that ovariectomy was confined, in London, to what Americans call a "ring." One of the profane outside of this charmed circle had but a small hope of ever operating, and any unauthorized attempt to enter it resulted in "freezing out," than which no more effective method is known to the profession. While we cannot say that there is any deliberate attempt to confine it within a select circle in this country, yet it exerts a pernicious influence upon the fortunes of gynecologists. The profession seems to labor under the idea that ovariectomy confers a sort of brevet rank upon a gynecologist, that it is a process of earning his spurs, as it were, and without which he degenerates in the esteem of the general practitioner. After a young specialist has gained a certain amount of literary distinction, he cannot long defer the evil day when some senior of his own class, or some general practitioner in search of information, will inquire into his personal experience of ovariectomy. If he be an observing young man, he will perceive that the weight given his opinion will depend somewhat upon his answer. A gynecologist, now but little heard of, confessed to us that in a few months after adopting a novel expedient in the performance of a laparotomy, which excited some comment in the journals, he found his waiting-room crowded with patients, sent to him by physicians from a distance, although his name had been before the profession for years. A man who was an experienced operator, but not an ovariectomist, was called in a probationary way to the chair of obstetrics in a prominent country school; a case of ovarian cyst was turned over to him by the professor of surgery, and the whole faculty assembled, even

those from a distance, to witness his attempt to remove it. He was afterwards told that, when his name came up for the full appointment, his chances all turned upon his prospects as an ovariectomist, and his consequent ability to advertise his chair. Yet another instance comes to us of a man in middle life, who was well known as a specialist, who had operated in manifold ways; who had written, and translated, and lectured, and who was approached by a venerable professor with the view to his appointment to a vacant obstetrical chair. He gave perfect satisfaction until, in the course of the conversation, he was asked if he had ever done an ovariectomy? He answered in the negative; the interview terminated coldly, and he never heard anything more of the appointment. We know a man, talented, learned, of good repute for skill, gentle, and tender hearted, in all things a most excellent man, who acknowledged to us, without a blush, that he hoped he might never die until he had done a successful ovariectomy. He had operated unsuccessfully several times.

We do not pretend to say that laparotomy in its many phases does not require coolness, courage, knowledge, and mechanical tact, that entitle the habitually successful operator to high consideration; but that it should be in any way a test for eminent fitness for special work is not so clear. At any rate, it is the profession at large, and not the specialists, who are responsible for the exorbitant value placed upon this operation. The young gynecologist may congratulate himself upon a very great enlargement in the field for ovariectomy. It is brought to his very door, so to speak, and he is justified in resorting to it as a cure for hysteria, metrorrhagia, mania, and other complaints. He has no one but himself to blame, if he does not possess the courage of his specialty, if not of his convictions, and straightway become an ovariectomist. If this operation is to be made the first resting-place for the foot of the gynecologist in his up-reaching after professional honors and emoluments, we fancy that there is no limit to the number of ovaries, normal and otherwise, that are doomed.

THE UNITED STATES PHARMACOPŒIA.

THE contract for the publication of the forthcoming revision of the United States Pharmacopœia having been awarded to Messrs. W. Wood & Co., of New York, the time has come to give our readers some information as to a matter which has excited considerable interest in medico-literary circles. The Pharmacopœial Convention, held in Washington, May, 1880, directed that the publication of the work should be entrusted "to the publishing house offering the best terms, the Committee (on Revision and Publication) to hold the copyright, the price of

the book to be limited, and the book to be sold through the ordinary trade channels"—the object of these instructions being, firstly, to raise a fund wherewith to defray the expenses of further revision; secondly, to furnish the work at a moderate price to those to whom it is indispensable; and, thirdly, to prevent its being hawked around the country by means of the undignified nuisance of canvassers.

The principal labor of the revision was parcelled out among the following gentlemen: Prof. J. M. Maisch, of Philadelphia, undertook the important department of Pharmacognosy, assisted by Profs. E. Scheffer, of Louisville, and O. A. Wall, of St. Louis; Prof. Joseph P. Remington, of Philadelphia, that of Pharmacy; Mr. Alfred B. Taylor, of Philadelphia, that of editing the Pharmaceutical work; Mr. Louis Dohme, of Baltimore, that of Chemistry of Iron Preparations; Prof. C. Lewis Diehl, of Louisville, that of Fluid Extracts; Prof. A. B. Prescott, Ann Harbor, assisted by Prof. H. B. Parsons, of New York, Descriptive Chemistry and Tests; Dr. Chas. Rice, of New York, the general collation and editorial revision; and some special branches of pharmacy and chemistry were under the special supervision of other members of the Committee.

A sub-committee on publication was appointed by the Committee on Revision, consisting of five members, viz.: Drs. Robert Amory, E. L. Wood, and T. Doliber, of Boston; Dr. Henry G. Piffard, of New York; and Dr. W. S. W. Ruschenberger, of Philadelphia, the latter of whom was prevented by domestic reasons from attending any of its meetings. In March, this sub-committee advertised for proposals for the publication of the work, and furnished to applicants a form of contract on which the proposals were to be made. The principal features of this were that the retail price of the work was not to exceed four dollars a copy; each bidder was asked what amount of royalty he would guarantee on the first year's sales, as well as what percentage of royalty he would pay on the retail price for each copy sold; and in place of requiring that the work should be sold "through the ordinary trade channels" as directed by the convention, there was simply a clause requiring "that the market shall be kept fully supplied." A member of the committee called attention to this significant change, without effect, and at least one house intending to offer proposals, inquired of the Chairman whether the instructions of the convention on this head were to be observed, without eliciting a reply. It is true that Messrs. Wood & Co., since the award, have stated that they accepted the two expressions as equivalent; but the ignorance in which the other competitors were kept prevented intelligent bidding, as the two systems of sales are essentially different, and a knowledge of the intentions of the sub-committee was a condition

precedent to estimating safely both the royalty that could be offered and the amount that could be guaranteed on the first year's sales.

It was naturally expected for several reasons that the sub-committee would secure terms unexampled in the history of American bookselling. The price which the publisher was allowed to put upon the book (\$4.00, in cloth) was exceptionally high. The last edition of the Pharmacopœia retails at \$1.75, and the forthcoming one, though increased in size, could readily be sold at \$3.00. The book is a necessity to a considerable class of professional men and druggists, and the sales thus will be large. Not only, therefore, is there a very large profit to be made from it, but it is a work which any house extensively engaged in medical publishing could afford to issue at a minimum profit—or even without profit—in view of its influence on other business. Competition, therefore, was keen, and leading houses prepared to pay extraordinary rates of royalty for the privilege of its publication.

Contrary to established usage in such cases, the proposals were not opened in the presence of all the bidders, but the latter were admitted singly to the room, each one as his bid was opened. They were found to be as follows:

Houghton, Mifflin & Co. (Boston) offered to publish for an equal division of the profits.

Hall & Whiting (Boston) offered 15 per cent. royalty on the first 15,000 copies, and 20 per cent. on all thereafter, with a guarantee of 15,000 copies for the first year's sales, and a suggestion that the price should not be more than \$3.75.

Wm. Wood & Co. (New York) offered 10 per cent. royalty, with a guarantee of 11,000 copies on the first year's sales.

J. B. Lippincott & Co. (Philadelphia) offered a royalty of 41 per cent., with a guarantee of 2,000 copies the first year—or a royalty of 34 per cent., with a guarantee of 5,000 copies.

P. Blakiston (Philadelphia) offered 26 per cent. royalty, with a guarantee of 3,000 copies the first year.

H. C. Lea's Son & Co. (Philadelphia) offered a royalty of 30½ per cent., with a guarantee of 4,000 copies the first year.

They also offered two supplementary bids, based upon a retail price respectively of \$3.50 and \$3.00, but these were not even considered by the sub-committee, being returned to them unopened.

The deliberations of the sub-committee over these numerous propositions and the accompanying samples of paper, binding, etc., were very brief, and in the space of half an hour the publication was adjudged to the lowest bidder.

After the award was made to Messrs. Wood & Co., a clause was added to the contract to the effect that

the amount of royalty guaranteed for the first year's sales was to be paid, whether the sales were effected or not—thus showing that the object of the guarantee was to make sure of immediate pecuniary returns, rather than to insure a large circulation for the work, and enabling the firm to which the publication could only have been awarded because of their having guaranteed such a circulation during the first year, to escape from all liability therefor upon payment of \$4,400, or much less than at least three other houses had offered to guarantee. Had the object been to ensure a large circulation, Messrs. Hall and Whiting's bid, which guaranteed 15,000 copies at a royalty of 50 per cent. higher than Messrs. Wood & Co.'s, would naturally have been accepted. But even in view of the amount to be received during the first year, the award is inexplicable, for, on the basis of a retail price of \$4.00, Messrs. Wood & Co.'s bid of 10 per cent. amounts to but 40 cents per copy, which on 11,000 copies is \$4,400, while Messrs. Hall and Whiting's bid of 15 per cent. amounts to 60 cents, and on 15,000 copies to \$9,000; Messrs. J. B. Lippincott's lowest bid of 34 per cent. amounts to \$1.36 per copy, and on 5,000 copies to \$6,800; while Messrs. H. C. Lea's Son & Co.'s bid of 30½ per cent. amounts to \$1.22 per copy, and on 4,000 copies to \$4,880, and all these irrespective of the large sums which these latter bids would produce during the remaining nine years of the sales of this revision, to say nothing of the surplus that would accrue in case the first year's sales should exceed the quantity guaranteed. As for Messrs. Houghton, Mifflin & Co.'s offer to divide the profits, the sub-committee made no effort to ascertain what it would yield before rejecting it.

As might be anticipated, the gentlemen who had toiled for two years on the revision were indignant that the profits arising from their labors should be thus improvidently handed over to a publisher who had offered the lowest rate of remuneration. They accordingly protested against the award and elicited explanations, which amount in effect to the fact that the highest bidders, Messrs. J. B. Lippincott & Co., were rejected because of dissatisfaction with their management of previous editions; while Messrs. Hall & Whiting, whose guarantee was the largest, were thrown out because they were supposed not to understand their business, though their bids had been offered at the personal solicitation of the chairman, Dr. Amory. No special reasons were given for making no inquiry into the real nature of Messrs. Houghton, Mifflin & Co.'s proposal, which had likewise been solicited, nor for passing over those of Mr. P. Blakiston and Messrs. Henry C. Lea's Son & Co., nor for avoiding consideration of the latter's offers to publish the work at lower prices.

The award has been submitted for confirmation to

the Committee of Revision, and has been agreed to, we understand, by a vote of fifteen to nine. This could hardly have been the result had the Committee been called together and the whole matter ventilated in debate. The question, however, was taken by correspondence with the widely scattered members, and was ordered rather suddenly and unexpectedly by the chairman, Dr. Rice, the editor of *New Remedies*.

We prefer to leave this singular affair to the judgment of the profession, without comment, merely remarking that some motive, not on the surface, must apparently have existed to lead the sub-committee thus to trifle with the interests committed to its charge.

QUACK ADVERTISEMENTS.

WE reprinted, lately, from the London *Lancet*, a vigorous article on "Quackery within the Profession." The *Popular Science Monthly*, also, reprinted the same article. And now Captain Davis, of the Engineers, who writes significantly from Buffalo, calls the attention of the editors of the *Popular Science Monthly* to the fact that, while on one page they are thus attacking quackery, in the advertisements of the same number appear no less than nine nostrums, from St. Jacob's Oil and Mrs. Pinkham's Compound, to Warner's Safe Kidney and Liver Cure and Compound Oxygen.

The point is well taken. The editors make an exceedingly weak and unmanly defence, and needlessly sneer at "the low standard of the religious and secular press." They plead, in mitigation, that everybody knows the advertisements are lies. But there is just the trouble. Everybody does *not* know it, and a very large number of people buy such nostrums because respectable journals, like the *Popular Science Monthly*, allow their advertisements to appear in their pages, and thus give them a *quasi* indorsement. The shameful reason is plain—the quacks pay well. They are many; they take large space to blazon their deceptive wares; they pay: *voilà tout*.

It so happened that late at night during the past week we had occasion to consult that mine of wisdom, The Philadelphia Business Directory, title "Physicians," under which general heading all and sundry there are eight subdivisions. While searching for what we had in mind, we suddenly ran upon the name of a well-known practitioner under the heading "Physicians, Homœopathic." We rubbed our eyes and looked again, and there it still was, and with it others whose names made us stare still more. To adopt the New York Code would be bad enough, but to find that a number of our good friends had gone clean over to the "Physicians, Homœopathic,"

we confess, gave us quite a turn. Indeed we fully expected to find the entire staff of *THE NEWS* so classified, but a careful scrutiny convinced us that our *sanctum* was still free from apparent apostasy. But there is no knowing where another edition may place us.

SPECIAL ARTICLE.

THE MEDICAL NEWS COMMISSION

ON THE

MANAGEMENT OF VACCINE FARMS AND ON THE PROPAGATION OF BOVINE VIRUS.

(Continued from p. 484.)

VACCINE FARMS AT CHAMBERSBURG.

WE next visited Chambersburg, Pa., and saw there, first, the vaccine farm of Mr. W. M. McKnight, successor to Dr. B. Rush Senseney, deceased. The concern is now styled the "Pennsylvania Vaccine Company." It is stated in their circular that the business was established in 1874 by Dr. Senseney.

On inspecting the premises, the stables were found in a fair condition, but in the operating-room very little attention seemed to be paid to cleanliness. We were informed by Mr. McKnight that the virus now being propagated is the result of a mixture of two different "stocks" of virus. It appears that when Dr. Senseney began the business, he obtained, from Dr. Foster, some of the Beaugency virus; this was propagated alone until about three years ago, when Dr. Senseney received some virus from Belgium, and since then the two "stocks" have been allowed to run together.

In selecting heifers for inoculation, Mr. McKnight says he prefers those that are small, and cares but little about their age; though he says he does not use cows after they have borne calves. The animal is placed in a rack and made to lie on her back, the legs being fastened to four upright posts. The inoculations are made in the region of the udder, and on a portion of the belly adjacent thereto. The virus is collected on quills and ivory points, from the seventh to the ninth day after inoculation. No crusts are issued.

Drs. J. L. and L. F. Suesserott, of Chambersburg, are also engaged in the production of bovine virus. Their establishment is known as the "Jenner Vaccine Farm." The business was commenced in December, 1879, by Drs. Suesserott and Merklein. The latter member of the firm subsequently withdrew, and the former associated with him his son, Dr. L. F. Suesserott.

The senior member of the firm informed us that they are propagating the Beaugency virus. He says, in the fall of 1880, they received, indirectly, a supply of this virus from France, and that they have since continued its propagation.¹

The stables belonging to this firm were found in good condition. Their heifers were apparently well selected, and evidently well fed. Their operating-

room was neat, clean, and well provided with every needful appliance to carry on the business. We witnessed the operation of inoculation, and noticed that they introduced the virus in larger patches than any operator we had previously seen. Many of the vaccinated heifers exhibited a large number of spontaneous vesicles, which, appearing near the large inoculated patches, gave to the eruption somewhat the appearance of confluence.

Heifers from one year to eighteen months are preferred. They are placed on their side upon a table which is somewhat similar to that used by Dr. Martin. The inoculations are made in the region of the udder, on the inner and upper portion of the hind quarters extending towards the vulva. The lymph is collected from the fifth to the eighth day, on ivory points, prepared quills, and in capillary tubes. Crusts are also issued. The virus is said to be dried by chemical agency in a well about eight feet deep, having a metallic lining, and is maintained at a temperature of about 50°, and believed to be free from moisture.

Dr. John P. Seibert, of Chambersburg, is also a propagator, but at present is producing only very little virus. His place is called the "Franklin Vaccine Farm." No work was being done at the time of our visit.

The extraordinary demand for virus during the last two or three years, has induced several enterprising laymen of Chambersburg to engage in the business, but being told that they were at present producing little or no virus, we did not visit their establishments.

VACCINE FARMS AT WASHINGTON.

At Washington, D. C., we visited the establishment of Drs. Ralph Walsh and William E. Griffiths. They have recently commenced the business in Washington, and have given their place the somewhat misleading name, "National Vaccine Establishment." The operating-room is in the basement of Dr. Walsh's residence, and is kept, as might be supposed, scrupulously clean. The stables are located on the premises, and were also in good condition.

When commencing operations, the seed-virus was obtained from the stables of one of the members of the firm, Dr. Wm. E. Griffiths, who has already been referred to as a producer in Brooklyn, N. Y. At the time of our visit no work was being performed.

As to the efficacy of the virus produced at this establishment, there seems to be no doubt. Dr. Charles Smart, of the U. S. Army, speaks very favorably of its action (*MEDICAL NEWS*, March 18, 1882). Likewise, Dr. Smith Townshend, Health Officer of District of Columbia, and Drs. Lincoln and Murphy, of Washington, have used it with gratifying results.

We visited Baltimore with the view of obtaining information from Dr. Register, State Vaccine Agent of Maryland, but learned that he had resigned the office, and, on account of ill health, had gone to spend some time in one of the Southern States. If we understand correctly, the object of the office of State Vaccine Agent is to propagate bovine virus,

¹ According to Dr. Martin, any virus received from France since the Franco-Prussian war does not belong to the Beaugency "stock."

and supply it for use within the State free of charge; and that this object has been virtually defeated by too meagre appropriations on the part of the State. At any rate, the Board of Health of Baltimore has been and is still procuring virus from Chambersburg and Boston.

VACCINE FARMS IN WISCONSIN.

We regret that distance prevented us from visiting the establishment of Dr. E. L. Griffin, of Fond du Lac, Wisconsin. Dr. Griffin bears the reputation, even among those engaged in the specialty, of being an intelligent and conscientious propagator. A very favorable account of his establishment is given by Dr. H. A. Johnson, in the *National Board of Health Bulletin*, March 4, 1882.

GENERAL REMARKS.

It may be of interest to state, that the vesicles which appear on the heifer after inoculation do not very closely resemble typical vaccine vesicles on the human subject. When maturation has taken place, instead of finding the characteristic pearl-colored vesicle, there appears at the place of insertion of the virus a thin brownish crust, somewhat elevated, and surrounded by a slightly vesicular condition. This appearance may probably be due to the fact that each insertion of the virus is made to cover so large a surface, being usually from a half to one inch square.

When the vesicles have reached maturity, and are ready for yielding lymph, the animal is placed upon the table, the thin brownish crust is removed from one of the vesicles, and the process of dipping the points is begun. The lymph is seen to issue very slowly and gradually from the parenchyma of the vesicle, apparently as an exudation. Occasionally the flow ceases, and it then becomes necessary to make use of gentle pressure, either by the fingers or forceps. But this pressure should not be continued too long, for virus taken after a certain amount has been collected must certainly prove inert. As in the human subject, so in the animal, all vesicles do not yield alike, reliable and active lymph. It is therefore evident that intelligent observation and experience are needed to determine the choice of vesicles, as well as the precise time to begin and to cease collecting from them.

SOURCE OF THE VIRUS PROPAGATED.

In inquiring into the propagation of animal lymph, the question of primary importance is, what is the source or origin of the virus being propagated? is it strictly and exclusively animal? The importance of this question will perhaps be better appreciated when we recall the fact that, up to 1881, no *perfectly authenticated* case of *true* spontaneous cow-pox had ever been known to occur in America. In 1877, Dr. Martin stated, before the American Medical Association, that he had for many years offered a considerable reward for information of any case which should prove to be true cow-pox, and that he had expended considerable, both of time and money, in travelling great distances, visiting at various

times over twenty dairies and stables in which cow-pox was reported to exist, without being rewarded by discovering what he had so eagerly sought. On several occasions he found animals suffering from a spurious form of bovine pock, and in two instances at least, large quantities of fluid from the pustules had been collected on many hundred quill slips, under the impression that it was genuine, by persons less experienced in this important specialty. When the case of true spontaneous cow-pox had been discovered at Cohasset, in February, 1881, the discoverer, or informant, applied for and received from Dr. Martin & Son a pecuniary reward.

In some other countries the occurrence of cow-pox is very variable. It is said to prevail at times in very many different dairies, and then again no case will be heard of for many years. On the authority of Bousquet, not a single *properly authenticated* case of spontaneous cow-pox was reported in Continental Europe for thirty years previous to 1836; and in all Europe not more than two or three genuine cases had been observed for over twenty-five years previous to 1831. About this period, in some parts of Europe, retro-vaccination, or inoculation of the heifer with humanized virus, was practised, with the hope of remedying the supposed contamination and evident deterioration of much of the long-humanized virus then in use. This method did not then meet, nor has it since met, with much favor from the most competent observers, whose opinion alone is worth knowing. Ceely, who was as anxious as any other experimenter that retro-vaccination should succeed in renewing the pristine vigor of the virus, reluctantly states his conviction that long-humanized virus gains nothing in vigor, nor even in purity, by its transmission through the animal; but that, on the contrary, it loses very markedly the quality of "taking," or of inducing vaccinia. We should not, however, omit to state a very curious fact recorded by a very competent observer, viz., that the virus of retro-vaccination recovers its former quality of "taking" after a single human remove; but that, as Ceely and others have noticed, it gains nothing in vigor beyond what it possessed before its transit through the animal. It is evident therefore, that, whatever scientific interest may be found in the study of retro-vaccination, it possesses no real practical value as a source of vaccine supply.

VARIOLATION OF KINE,

Or inoculation of heifers with variolous virus, has frequently been resorted to as a supposed means of artificially inducing cow-pox. We are inclined to believe that a great deal of misapprehension exists as to this method. There is a very general impression that true animal vaccination consists in nothing more or less than bovine variolation. While we are not prepared to deny that Ceely, and probably a very few others, have succeeded in their experiments in this direction, yet hundreds of other experimenters have utterly failed, and a few have done worse than fail, for virus procured in this way has more than once or twice been the means of a wide diffusion of small-pox.

Many physicians are doubtless familiar with the very unfortunate results of this kind which happened a number of years ago to a practitioner of medicine in the State of Massachusetts; and which were subsequently published under the title, "Attempt to Procure Vaccine Matter from the Original Source—Production of True Variola."¹ It appears that in 1836, this physician, conceiving that the not unfrequently imperfect protection afforded by vaccination arose from deterioration of the humanized virus then in use, inserted into the udder or teat of a cow some variolous virus taken from a pustule upon the body of a man who had died from small-pox. From the vesicles which developed, virus was taken and inserted into the arms of about fifty persons. Presently, one of the number first vaccinated, or rather inoculated, sickened with small-pox. Up to this time the virus had been used on successive days, and consequently other cases gradually followed, until a large number of persons were ill of the disease. Not all who received the virus sickened; but of those who suffered, three died. It is said that the sad affair so operated upon the mind of the physician that he became insane.

A similar occurrence has been more recently reported by Dr. Thomas F. Wood. In his own words:² "I had occasion just after the war (1865-6), while in charge of the Wilmington Small-pox Hospital during an epidemic of the disease, to go over the same ground of attempting the production of artificial cow-pox. . . .

"It happened, though, during the progress of the experiment, that an army medical inspector, whose name I have forgotten, was making a tour of the hospitals; hearing of my experiments, visited my hospital and after examination pronounced the small vesicles genuine cow-pox, and confirmed his faith in his opinion by making some inoculations on the arms of two children in an Irish family near by. The inoculations resulted in a genuine small-pox, which went through the family in various grades of intensity."

Results like these lead us to doubt very seriously whether the vaccine disease has its origin, as commonly supposed, in variolous infection of the cow. If it is at all possible for nature in some mysterious way to elaborate original cow-pox from variolous virus introduced into the system of the cow, it is evident that man cannot with certainty cause her process to be repeated at will, and therefore variolation of kine as a source of vaccine supply cannot be considered practicable.

(To be continued.)

REVIEWS.

DISEASES OF WOMEN: INCLUDING THEIR CAUSATION, SYMPTOMS, DIAGNOSIS, AND TREATMENT. A MANUAL FOR STUDENTS AND PRACTITIONERS. BY ARTHUR W. EDIS, M.D., Lond., F.R.C.P., M.R.C.S., Assistant Obstetric Physician to the Middlesex Hospital, late

Vice-President of the Obstetrical Society of London, etc. etc. With 148 illustrations. 8vo. pp. 576. Philadelphia: Henry C. Lea's Son & Co., 1882.

THE author has been long known to the gynecologists of this country as one of the active workers in the Obstetrical Society of London, a body composed of over seven hundred fellows, but like all such associations, dependent chiefly for its reputation upon the labors of a few earnest men, and his work under review shows how well he is also acquainted with, and how highly he values, the contributions to science of such Americans as Drs. Sims, T. G. Thomas, Emmet, Goodell, Battey, Bozeman, and others, among them the late Drs. Hodge and Peaslee.

As might have been expected, Dr. Edis has prepared a work which abounds in practical teaching, and one which will be particularly valuable to students and young practitioners in our country, as he has been careful to provide numerous formulæ for the preparation of medicines recommended. He has also been particular to give due credit to various writers in Europe and America for instrumental contrivances, improved methods of treatment, and forms of operating. In this sense the book is a compilation; but it is none the less valuable for the selection, as the work has been done by one of large and varied experience, who has also largely drawn therefrom in his therapeutical directions. Portions of the volume have been very much condensed and made to embrace a long list of ailments; whilst others have been much extended, where the importance of the subject and experience of the author appeared to require it. Thus, seventy pages are devoted to the subject of displacements of the uterus, and sixty-five woodcuts are used in illustration. A like space is given to the diseases of the ovaries, including ovarian tumors, their diagnosis and surgical management. Twenty-four pages are allotted to the consideration of the numerous diseases of the vulva, so often neglected in works upon the diseases of women; and an equal space for those of the vagina.

Dr. Edis draws a distinction (page 133) between *precocious* and *premature* menstruation, as to their influence upon the growth of the body; speaking of the subjects of the former as "*stunted*," and of the latter as "not usually interfered with," in height of body. He also remarks that "children as young as eight and ten years" have "before now borne living children at full term." Having very thoroughly examined the two subjects of "*Early Pregnancy*," and "*Early Puberty*" several years ago, the reviewer has been led to form a somewhat different opinion. In precocious or infantile menstruation, the mind is in accordance with the age of the subject; but the body presents the appearances of puberty, and gives the girl the contour of a little woman, and of course under advanced development she looks as if stumped or stunted. Such girls are, however, as a general rule, tall for their age in childhood; but reaching full maturity early, may be short of stature at the age of eighteen or twenty. We agree with Dr. Edis as to the effect of *premature* menstruation. In three subjects, all in the higher walks of life, known to the reviewer, in whom menstruation commenced at the age of nine years, there was certainly no stunting at the time, nor subsequent check in growth, as all reached the full average height. On the point of maternity at the age of eight years, we are not one in opinion with the author. The youngest mother in America was ten years and three weeks old when her child was born; and the youngest in Great Britain, until quite recently, twelve; but one of nine has been lately reported. Children capable of bearing, or presumed to be, at eight, have been noticed by Sir Astley Cooper and others, but we have never been able to find a report of

¹ Boston Medical and Surgical Journal, Feb. 23, 1860.

² The Chicago Medical Journal and Examiner, Oct. 1881.

a birth at that age, that we could be satisfied with as reliable.

Dr. Edis makes an oversight (page 273) in speaking of Battey's operation, when he says it "has thus far been performed about thirty times, with a result of three deaths—rather a large proportion—the abdominal having proved more dangerous than the vaginal section." This operation is certainly far advanced in its third hundred. Mr. Lawson Tait has alone operated oftener than thirty times, and Prof. Hegar, of Freiburg, many in excess of it. The percentage of loss in the first and second hundred, together, reached about eighteen. Mr. Tait lost but two in a succession of twenty-six cases. The ten per cent. of Dr. Edis is probably still within the rate of death. The abdominal method of operating is now almost universal.

The author favors the use of the bichloride of methylin as an anæsthetic in ovariectomy, claiming that it is safer than chloroform or ether, less liable to produce vomiting, and not inclined to excite cough when first inhaled.

We are not yet converted to the use of the newly coined verb *differentiate*, nor to that of the noun *causation*, for *producing* or *exciting cause*. In our dictionary, "*causation is the act of causing*." The word *vulvar* strikes us also unfavorably, as an improvement upon *vulvar*. "*Rest up*," so often used in the book, we presume to be reclining, but not in bed. It is new English here. Dr. Edis' book, like those of other men, is not perfect, but its small blemishes are so few that they attract one the more in an examination. The treatise is a valuable addition to our gynecological collection.

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF THE STATE OF CALIFORNIA.

Twelfth Annual Session, held at San Francisco, April 19 and 20, 1882.

(Specially reported for THE MEDICAL NEWS.)

THE twelfth annual session of this Society since its reorganization was held in San Francisco, April 19 and 20, 1882. In the character of the papers submitted, in the attendance of members, and in the concluding banquet so hospitably given by the City medical societies, this session was felicitous beyond all others in the history of the Society.

At the opening of the morning session a brief and admirable address of welcome was delivered by Dr. George H. Powers, Chairman of the Committee of Arrangements. From the Academy of Sciences was received and accepted an invitation to visit the Crocker-Stanford collection, of which a reconstructed mammoth is the central figure.

The President, DR. TYRRELL, in the

ANNUAL ADDRESS,

protested against the recent action of the New York State Medical Society in the matter of consultation with irregular physicians.

THE NEW YORK CODE.

"To us," said he, "armed with the knowledge of the past, with the horizon of truth ever widening before us, how childish seems the remark that we belong to the 'old school,' as though our art were a thing of the dead past and not pulsating with the onward surge of the living present! that all in medicine that is new and progressive came into existence through the infinitesimal nothingness of what this generation in its wisdom is pleased to call the 'new school,' whose disciples are making such earnest and persistent efforts to obtain

recognition by regular physicians, encouraged by Dr. Bristowe in his now famous address before the British Medical Association at Ryde, in which he promulgated the idea that association in consultation with homœopaths is possible without loss of dignity and self-respect. Happily for science, this strange and derogatory doctrine was instantly and decisively repudiated by the profession of Great Britain. This levelling-down doctrine has reached the Pacific Coast, as is evidenced by the recent address of a president of one of the San Francisco Medical Societies. To present this matter fairly we will analyze the remarks of the distinguished author into the several reasons, against which no valid objection can lie to debar us from meeting homœopathic practitioners at the bedside.

First.—They are not behind the regular practitioner in education, intelligence, or gentlemanly bearing.

Second.—Although reason rebels against their peculiar postulates, they enjoy the confidence of no inconsiderable portion of the community.

Third.—A militant attitude toward them is not conducive to medical morality.

Fourth.—That in consultation, Hahnemann and his doctrines will be ignored, and in addition will be laughed at by the homœopathic attendant.

Fifth.—You will be surprised to learn how much your homœopathist knows of the principles of regular medicine, and how much humbug there is in his antagonism to them.

Sixth.—It is easier to consult with an educated homœopath than with a physician in regular standing whose beliefs are antiquated and whose methods are superseded.

Let us follow these reasons to their legitimate conclusions. To the first statement given there can be no valid objection, except its falsity; but to say that we can consult with a man against whose postulates our reason rebels, and whose pretensions we know to be a falsehood, because he has the confidence of no inconsiderable portion of the community, is to say that we can countenance a fraud in order to pocket a fee. If this is to be our rule of conduct, why not consult with Lipotai or similar Chinese impostors, with magnetic healers and other charlatans, who likewise possess the confidence of no inconsiderable portion of the community, not only here but in every other city of the Pacific Coast? If consultation is to be made on the basis that the homœopath, being an intelligent man, will, at the bedside, ignore Hahnemann, laugh at his doctrines, surprise us with his appreciation of the principles of regular medicine, and that to oppose his pretensions is against medical morality, then are we to make ourselves *particeps criminis* in the deceit of consulting with a man who is pretending to be what he is not—professing homœopathy to his confiding patient and laughing at its absurdities to his presumably honest consultant. Truly this is a morality that can be little more elevating than even 'posing in a militant attitude.' The last plea for fraternization is if possible less defensible than any; that it is easier to consult with an educated homœopath who *has* no faith in his own practice, and *pretends* to have none in ours, than with a regularly educated physician who still clings to methods and beliefs long since superseded; which would of necessity include those who still believe that bleeding is often beneficial in disease, and that calomel has some depurative action on the liver. The time has come when we must cease dallying with the wanton spirit of mock courtesy and time-serving sentimentality that would make us forget the glorious history of our art with all its attendant triumphs to do honor to a fiction in science, an imposition on credulity, and accept on an equality the traders in a name. The science of medicine needs no pretence to establish its truth, no

mystery to enhance its merits, no falsehood to make known its claims. It stands to-day the immortal testament of our progress, the holiest temple of our civilization."

Dr. Tyrrell advocated the appointment of plumbing and drainage inspectors, under the supervision of boards of health. He urged, at some length, the establishment of a criminal insane asylum, and such modifications of our present civil and penal codes as will lead to the permanent seclusion of the criminal and vicious insane, and their separation from those merely intellectually diseased. The subject of medical experts also engaged his attention. Judges only should have the authority to appoint medical experts, or, better still, they should be officers of the government, as are the judges whom they assist. To secure impartiality, their appointment should be permanent; to secure competency, they should be rigidly examined; to secure the ability necessary to the office, they should be well paid.

The Address was enthusiastically received, and a thousand copies ordered for the use of the Society.

The able report of the

COMMITTEE ON PRACTICAL MEDICINE

was read by its Chairman, DR. W. S. THORNE. Reference was made to the vast extent of contemporaneous medical literature, whose annual product reaches the enormous total of 1500 volumes and 2500 pamphlets. From the marked effect of the salicin compounds on both diseases, a probable pathological relationship was inferred between acute rheumatism and glycosuria. During the past year, with grain doses of salicylate of soda, he had reduced the daily excretion of sugar from 2640 to 232 grains, and the daily quantity of urine from 128 to 56 ounces. Then followed a consideration of the chemical and morbid relationship between lactic acid and glucose. The analysis of an extensive series of observations led him to conclude that recent clinical experience but feebly sustains a belief in the communicability of tuberculosis proper through the medium of contaminated air in the ordinary intercourse with infected persons. The unexampled results of Dr. Weir Mitchell's treatment of neurasthenia by forced alimentation, massage, and improved hygiene, suggests the hope that some kindred method may prevent the catastrophe of retrograde changes in tubercular deposit, or even arrest such changes when once they have begun.

During the afternoon, DR. IRA E. OATMAN presented the report of the

COMMITTEE ON MEDICAL LEGISLATION,

with a supplementary report by Dr. DeWitt. In the discussion that arose, the chaotic condition of the medical mind on this subject was brought out in bold relief. Some favored the old law, some the proposed new law, others, various amendments to either; some, a mixed board, others, a "straight" one, and still others, no law at all. The final and rational conclusion was to bear the ills we have, rather than fly to those we know not of.

THE NEW YORK CODE.

DR. JAMES SIMPSON introduced a resolution recommending to the American Medical Association the favorable consideration of the rule recently established by the New York State Medical Society, permitting members of all societies in affiliation with it to consult with all legally qualified practitioners.

A strong protest against such action was filed by the Sacramento Society for Medical Improvement.

A motion to lay the resolution on the table was carried by a large majority.

The reports of the Treasurer of the Society and of the Treasurer and Secretary of the Board of Examiners

were received and referred to the Auditing Committee. The following gentlemen were elected

HONORARY MEMBERS:

Prof. Rudolph Virchow, of Berlin; Dr. Charles Sutherland, Medical Director, U. S. A.; Dr. G. M. Sternberg, Surgeon, U. S. A.; Dr. Elisha Bailey, Surgeon, U. S. A.; Dr. J. C. Bailey, Surgeon, U. S. A.

DR. W. H. MAYS read an excellent paper on the *Modern Use of the Forceps, with Demonstrations of Tarnier's New Instrument.*

DR. W. E. BRIGGS, as Chairman, read the report of the

COMMITTEE ON OPHTHALMOLOGY,

relating a case of spontaneous reduction of a dislocated lens, and recommending the more frequent resort to the electro-magnet for the removal of bits of iron and steel, even when visible. The use of the magnet occasions less violence to the ocular tissues than the use of the forceps, and less or even no danger of thrusting the foreign body either out of sight or into the anterior surface of the crystalline, and thus increasing the difficulties of extraction and the danger of subsequent opacity of the lens. Besides, when previously visible, the foreign body may be obscured by hæmorrhage consequent upon the operation for its removal. He exhibited a double curved scissors for the performance of optico-ciliary neurotomy and the simultaneous excision and withdrawal of a portion of the optic nerve.

DR. BARKAN exhibited a large number of ophthalmic and aural instruments.

DR. E. T. WILKINS, Physician to the Napa Asylum, read the

REPORT ON MENTAL DISEASES,

dealing with the alleged alarming increase of insanity in our State, and the methods of its prevention. He took the ground that insanity is essentially an incurable disease, and that in this, far more than in any other, department of medicine our efforts should be prophylactic rather than curative.

DR. A. M. WILDER read a valuable

SUPPLEMENTARY REPORT ON OPHTHALMOLOGY,

treating quite exhaustively of the year's work in the matter of color-blindness, and he was appointed to coöperate with the Committee on Medical Legislation in securing proper legal enactments in regard to this visual defect.

DR. A. W. SAXE read the

REPORT ON MEDICAL EDUCATION,

and instanced the high percentage of rejections in examination of applicants for army medical positions as indicating the sad condition of medical education in our country. This ratio was stated as ranging in the past six years between 27 and 82 per hundred.

SECOND DAY.—APRIL 20TH.

THE REPORT OF THE COMMITTEE ON GYNECOLOGY

was read by its Chairman, DR. CLINTON CUSHING. His paper was mainly devoted to the intra-peritoneal operations of gynecology. He believes that perfect cleanliness is but Listerism under another name, and that the use of the spray is superfluous—disinfection of the hands of the operator and his assistants, and of all the appurtenances of the operation, accomplishing all that can be done in the way of antiseptics. During the continuance of the north wind, the Pacific simoon, he advised against the performance of any serious operation that can be safely deferred.

DR. KATE N. POST read a valuable

REPORT ON DISEASES OF WOMEN AND CHILDREN,

narrating the history of a case of stone in the bladder, and lithotomy in a boy, and presenting specimen, with

description and history of an unique case of congenital malformation of the heart.

DR. GEO. W. DAVIS read a voluntary paper on *Medical Experts*, for which he received a special vote of thanks.

The report of the Committee on Necrology was read by DR. C. G. KENYON, and, with DR. MURPHY'S paper on *Venesection*, was referred to the Committee on Publication.

DR. W. P. GIBBONS made a valuable contribution to the medical botany of the Pacific Coast in his

REPORT ON INDIGENOUS BOTANY,

based on numerous original analyses. At the close the Doctor took strong ground against the manner in which certain pharmacists have flooded the country with "new remedies," whose medicinal virtues are vaunted by physicians as nameless in the profession as the weeds they sing.

DR. H. J. CRAMPTON read a paper entitled, *Illustrations of Country Surgery*, in which he related a number of cases that attested the fertility of resources of the country surgeon, as well as the recuperative powers of the country boy, under adverse circumstances.

In the evening, DR. STERNBERG, Surgeon, U. S. A., and an Honorary Member of the Society, read a paper on

BACTERIA AND THE GERM THEORY OF DISEASE.

The paper was illustrated on canvas by numerous photo-micrographs, taken by the author during his investigations in Havana and New Orleans as to the nature and cause of yellow fever. He had made frequent examinations of the bacillus malarie of Tomasi-Crudeli, but was unable either to affirm or deny its causative relation to malarial disease. He believed, however, that his investigations threw great doubt on the alleged discovery of such relationship. As to yellow fever, his conclusions were chiefly negative, although, on *a priori* grounds, he believes the poison to be particulate, and not gaseous. The address was eagerly listened to, and, by special request of the Society, will appear in its Transactions.

The following are the officers for the ensuing year: *President*, Dr. L. C. Lane; *Vice-Presidents*, Drs. Ira E. Oatman, Wm. E. Taylor, E. A. Stockton, and H. J. Crampton; *Treasurer*, Dr. Ira E. Oatman; *Permanent Secretary*, Dr. Wallace A. Briggs; *Assistant Secretaries*, Drs. Thomas Ross and C. G. Kenyon; *Board of Censors*, Drs. O. O. Burgess, G. W. Davis, G. H. Powers, A. H. Pratt, and A. A. Kirkpatrick; *Board of Examiners*, Drs. R. H. Plummer, Clinton Cushing, W. F. McNutt, James Simpson, H. Gibbons, Jr., A. H. Agard, C. N. Ellinwood; *Alternates*, Drs. J. S. Adams, A. M. Wilder, C. G. Kenyon. *Place of next meeting*, San Francisco.

The thanks of the Society are especially due to the Committee of Arrangements for the excellent manner in which it discharged its duties. There was not a single "hitch" in the proceedings, and the banquet provided by the Committee, by instruction of the San Francisco County Medical Society, the Obstetrical Society, and the Society of German Physicians, was extremely handsome and greatly enjoyed.

MICHIGAN STATE BOARD OF HEALTH.

(Reported for THE MEDICAL NEWS.)

THE regular quarterly meeting of this Board was held at Greenville, Mich., on April 11, 1882, in connection with the Sanitary Convention held at the same time and place. The following members were present: Rev. D. C. Jakobs, of Pontiac; J. H. Kellogg, M.D., of Battle Creek; Arthur Hazlewood, M.D., of Grand Rapids; John Avery, M.D., of Greenville; and Henry

B. Baker, M.D., of Lansing, Secretary. William Oldright, M.D., Chairman, and J. J. Cassidy, M.D., member of the newly appointed provincial board of health of Ontario, were present, and were invited to take seats in the meeting. In the absence of the president of the Board, Mr. Jakobs presided.

The secretary presented the subject of inspection of immigrants, and stated that the National Board of Health had granted the request of this Board for an inspection service at Port Huron, and the system would go into effect on May 1, at which time the whole system, by coöperation of several State Boards of Health, would go into effect. He suggested that the health authorities of Toledo and Cleveland be invited to join in this movement. He stated that at the meeting of the Sanitary Council of the Mississippi Valley, at Cairo, Ill., April 19, this subject would be considered, and that it was desirable that this Board be represented at that meeting. By vote of the Board, Dr. Baker was requested to represent the Board at that meeting.

Dr. Oldright spoke of the inspection of immigrants at Toronto, and of the importance of notification to other boards of danger to be feared from immigrants. He also said any movement made by this Board would meet with hearty coöperation by the Ontario Board. He said the work done by this Board for the restriction of scarlet fever and diphtheria was fully as important as that for the restriction of small-pox.

The following motion was carried:

That the secretary be instructed to correspond with the health authorities of the Dominion of Canada, and the several provinces thereof, and of provincial and municipal boards of health where they exist, asking their coöperation in the proposed immigrant inspection service.

DR. HAZLEWOOD read a proposed document giving best household antidotes to be used in case of poisoning while waiting for a physician, or when one is not to be had. It was accepted, and the Committee authorized to modify it before publication in the annual report.

Dr. Hazlewood, Committee on Poisons, etc., presented a letter from Dr. Gordon, of Swartz Creek, relative to lead-poisoning by use of a feeding-bottle (which was exhibited to the Board), in which the sinker keeping the supply-pipe in the milk was of lead, and so arranged that all the milk had to pass over it before entering the infant's mouth. The secretary was requested to notify the manufacturers of the pernicious character of the bottle, and the report was accepted and ordered published in the annual report.

Circular 35, revised, relating to the duties of health officers, was presented, adopted, and twenty thousand copies ordered printed.

Dr. Kellogg, as special committee to prepare a circular on criminal abortion, made a report and read a proposed circular. The report was accepted, the committee continued, and the subject of issuing the circular laid over.

Dr. Kellogg was requested to represent the Board at the meeting of the American Medical Association at St. Paul.

The next meeting of the Board will be on Tuesday, July 11, 1882.

NEW INVENTIONS.

A NEW UTERINE REPOSITOR.

By J. A. PORTER, M.D.,
OF BROOKLYN, JACKSON CO., MICH.

ALL instruments of which I have any knowledge are more or less imperfect as replacers or readjusters of malposed uteri. It seemed to me they were imper-

fect to an unnecessary degree. To remedy this somewhat, and to meet my wishes in a practical form, I have had G. Tiemann & Co. devise an instrument for me that, I think, overcomes, in a large measure, the objectionable points of all others. By reference to the wood-cut, it will be seen at once that it is simple and easy to manipulate. It is easy to carry the instrument to place, and the points being of copper, they can be curved to any required degree. The instrument, when held by the handle, without touching the lever disc, allows the point to be carried along the uterine canal and take any direction necessary. On the lever disc is a mark (*z*) that shows the direction and angle the

uterine point has taken. After the point is fully within the uterus, and it ought to reach to the fundus, but not press thereon, the forefinger of one hand may be used to assist the instrument, as desired, by pushing against the body of the uterus as felt through the vaginal wall. The forefinger of the hand holding the instrument pressed against one lever and the thumb pulling on the other will cause the point to rotate so as to bring the uterus to the desired position. The instrument works almost like a long finger, as it were. You know as you use it how much power or force you are exerting; you know how much you have moved the organ at any time; can judge of the rigidity or elasticity of



z shows the mark on lever disc, which shows the direction the points take. The points screw into the button disc.

the parts moved, because the whole force is in your fingers, and not in a screw. After having moved the uterus into place, by letting go the levers, you will be able to see if it tends to return back again to its old position. The instrument is easily kept clean. As there has always been a difficulty after replacement of a uterus with an instrument in getting the point out again without turning the organ back to its wrong position, I have had points made which flex only in one direction. These points enter the uterus with the greatest facility, and if the version is complete after introduction, the instrument will perhaps need to be revolved upon its axis, and then use the lever disc. The turning the instrument on its axis is to bring the uterine point into proper relations so as to get its rigid action. In taking the instrument out, elevate the handle towards the abdomen, so as to cause the button disc to describe an arc of a small circle from the uterus backwards, downwards, and then forwards. By this motion the point will slip out without displacing again the replaced organ. A rubber disc is also made to go on the button disc for use in cases where the instrument might too easily enter the os, such as in lacerations, gaping os tince, etc. Many other uses or modes of use will readily suggest themselves to the practical gynecologist. With no other instrument can the uterus be so easily manipulated in examinations made to decide the question of attachment or non-attachment of tumors to itself within the abdomen. Here the rigid points are best. With no other instrument can you so definitely guide the uterus between adhesive bands into its natural position, and so easily return it again if there would seem to be any necessity therefor. The instrument is especially valuable to those of us who believe in the curative value of frequently restoring the uterus to its normal position, not because its mere presence in the abnormal position produces any difficulty or distress, but because in that position it is held more or less immovable, and the stimulus of motion is denied the blood-vessels and nerves, etc., bringing about all the trouble that immobility of any other organ would produce. Motion is needed in all parts, and relative motion, too. But an article of this nature forbids more than mention of this matter.

CORRESPONDENCE.

DETECTION OF COLOR-BLINDNESS.

To the Editor of THE MEDICAL NEWS.

SIR: In your number for April 8, p. 389, you speak of the methods for detecting defective vision, proposed

by Mr. Roberts to the British Association for the Advancement of Science, taken from Dr. Daae (not *Daal*, as your compositor makes it), Snellen, and Holmgren.

The method of Dr. Daae, of Kragerø, Norway, which Mr. Roberts copies, is an imitation of Holmgren's with the worsteds. Like all other imitations of his method, it is like attempting to use a piece of looking-glass with a hole scraped in the silvering, in place of a Loring ophthalmoscope.

All attempts to arrange apparatus for enabling the laity to test visual power or color-perception are worse than useless. How can the layman decide whether "vision one-half" is due to ametropia or to corneal opacities, etc.? He can only record the amount of vision indicated by test letters; which tells us nothing. Such authorities as Prof. Donders and Prof. Holmgren have given us their experience, and have expressed themselves most emphatically on this point (*vide* the enclosed brochure). With them, all who have undertaken tests of vision agree.

Statistics as to vision gathered by the laity cannot be accepted. In the present state of the profession, ophthalmic surgeons alone can examine for ametropia. As to defects in the color-sense, no method equals in completeness and facility of use that of Holmgren, *when the worsteds are properly chosen and the examiner thoroughly understands the method*. Here has been the difficulty. There is no royal road to knowledge. To become a good examiner requires study, patience, and not a little practical familiarity. The committee of the British Ophthalmological Society well say that an examiner is not made in a week or a month.

The English railway surgeons particularly resisted Holmgren's ideas and results, as well as my own. I finally induced them to test properly, and they now admit their former mistakes. The report of the above-named committee is conclusive, wholly supporting my position, which is now well known in this country.

You mention the cover of Mr. Roberts's "booklet" as "both striking and useful, being in three horizontal bands of red, green, and violet." Dr. Daae's imitation of Holmgren's test, you say is "quite worthy of being a 'Yankee notion.'" The cover is one. I had my manual "Color-blindness, its Dangers and its Detection," bound in this way to attract attention to the three primary colors. No doubt Mr. Roberts appreciated its value. Some of my reviewers, who *looked no further*, thought that the cover was intended for use as a test for color-blindness; others concluded that I had thereby committed myself to the Young-Helmholtz theory of color-perception.

The examinations as to visual power and color-per-

ception, made in large numbers by the Sanitary Association at the close of the civil war, were almost worthless from lack of proper methods. Equally useless will be such attempts as are proposed by the Anthropometric Committee of the British Association for the Advancement of Science, through Mr. Roberts' "booklet." It is a pity; for ophthalmic surgeons can be induced to study up the subject, and make tests, and record results which will be of value, while at the same time disseminating truth as to dangers on land and sea from defective vision.

I remain, respectfully, yours,

B. JAY JEFFRIES, M.D.,

April 24, 1882.
15 CHESTNUT ST., BOSTON, MASS.

NEWS ITEMS.

NEW YORK.

(From our Special Correspondent.)

MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW YORK.—Our readers are probably already conversant, through the daily press, with many of the details of the controversy which has led to the recent withdrawal of the entire Post-Graduate Faculty of the Medical Department of the University of the City of New York. It is, of course, a matter of genuine regret, that the difficulties which have arisen have been given such unsavory notoriety by the secular press. Though it is not desirable to furnish further matter for the gratification of morbid curiosity, yet to the general medical profession a plain, impartial statement of the real questions at issue is due.

From the official records, it appears that on the 27 of April, 1875, the Faculty established what is known as the Post-Graduate Course. This was "for the purpose of facilitating the efforts of graduates in medicine who have come to New York to renew their professional studies." The Post-Graduate Faculty then consisted of Professors Roosa, Hammond, Stephen Smith, Gouley, Pallen, and Piffard. To this list was subsequently added Drs. Sturgis, Macdonald, and Little.

Though the Faculty was formed, the course of instruction was never organized. The professors gave each a weekly lecture to the general class. Physicians in attendance did not even know that there was any special course being given for their benefit. The result was that the Post-Graduate Faculty had no other functions than the most transient lecturers. It followed that this Faculty became dissatisfied with its position, and from time to time protested against being placed in this attitude towards the class, and asked to have its course of lectures completely organized.

In 1881, the Post-Graduate Faculty had a formal meeting with the Governing Faculty and asked that they might have in accordance, as claimed by them, with an old understanding, a room set apart for post-graduate instruction. The expenses of this department were to be paid from the fees received from physicians attending the lectures, and what remained was to be divided among the professors of the Post-Graduate Faculty. They further asked to co-operate with the Faculty in regard to the methods of instruction. This was declined.

It is now claimed that the Post-Graduate Faculty were for a time tacitly permitted to look forward to the realization of their hopes. The Governing Faculty, while they evidently did not wish to make themselves in any way responsible to the Post-Graduate Faculty for their movements, nevertheless, at this time, when all the factors which could be brought to bear on the prosperity of the University were so much needed, did not flatly deny the Post-Graduate Faculty those privileges. Hence it

was that definite action was postponed from year to year. During the meantime the financial prosperity of the college increased, and with it the conservatism of the Governing Faculty became more manifest. It was when this state of affairs developed that the Governing Faculty felt that they need no longer hesitate to positively deny the request of the Post-Graduate Faculty, and furthermore gave them to understand that unless they were satisfied to continue their lectures, as at present, their co-operation in teaching could be dispensed with. Thereupon the gentlemen of the Post-Graduate Faculty tendered their resignations, to take effect at the close of the present Spring session, or sooner if convenient.

Owing, however, to certain unpleasant statements made by some members of the Governing Faculty, which appeared in the New York daily papers, and which were not contradicted, Drs. Roosa, Hammond, Gouley, Piffard, Little, Sturgis, and Pallen handed in their resignations a second time, and requested that action upon them be immediately taken by the Governing Faculty. In accordance with this request, a meeting of the Faculty was called and the resignations of these gentlemen accepted.

Dr. H. Knapp has been appointed Professor of Ophthalmology in place of Prof. Roosa.

Dr. A. E. Macdonald has been appointed to the professorship of Psychological Medicine in addition to that of Medical Jurisprudence, which he has previously held. Dr. Polk, now Professor of Obstetrics and Diseases of Women and Children, will give a gynecological clinic once a week, and hence there will be no new appointment to fill the vacancy caused by the resignation of Prof. Pallen.

Some of the remaining vacancies will be filled as early a date as possible, but it is not the intention of the Faculty to fill all the vacancies caused by the resignation of the Post-Graduate Faculty.

In regard to the gentlemen of the Post-Graduate Faculty who have resigned, it is understood that they have no idea of ceasing to teach medicine, and that it is their aim to establish an endowed medical college, preferably to be connected with some existing college or university as its medical department, and further to afford abundant facilities for advanced clinical instruction in the several departments of medicine. To this end 14 professorships, 14 assistant professorships, and 28 assistantships are proposed.

BALTIMORE.

(From our Special Correspondent.)

A NEW DENTAL SCHOOL.—In accordance with an Act of the Legislature of Maryland, recently passed, conferring upon the Faculty of Physic of the University of Maryland the authority to grant degrees in dentistry, the following Faculty of the Dental Department has been appointed, viz.:

Ferdinand J. S. Gorgas, M.D., D.D.S., Professor of Dental Science, Dental Surgery and Mechanism; James H. Harris, M.D., D.D.S., Professor of Operative and Clinical Dentistry; William E. A. Aiken, M.D., L.L.D., Professor of Chemistry; Samuel C. Chew, M.D., Professor of Materia Medica and Therapeutics; Francis T. Miles, M.D., Professor of Physiology; J. Edwin Michael, M.D., Professor of Anatomy; L. McLane Tiffany, M.D., Clinical Professor of Oral Surgery; John C. Uhler, M.D., D.D.S., Demonstrator of Mechanical Dentistry; Frank L. Harris, D.D.S., Demonstrator of Operative Dentistry; Randolph Winslow, M.D., Demonstrator of Anatomy. With the exception of the two gentlemen first named, all of the professors are members of the present Faculty of Physic.

Drs. Gorgas and Harris, have been, until recently,

occupants of professorial chairs in the Baltimore Dental College (Dr. Gorgas having been its Dean for many years). The first course of lectures will begin October 2, 1882.

A handsome building, sixty by twenty-five feet, designed for the clinical and mechanical departments, will be erected and ready for occupancy before September 1st.

VIENNA.

(From our Special Correspondent.)

GASTRIC RESECTION.—Billroth did not perform his prospected gastric resection in Bordeaux, as the patient died upon the day of his arrival. The autopsy revealed an error in diagnosis, the stomach being found perfectly normal, while the gall-bladder was filled with calculi.

For the journey, Billroth received 12,000 florins, while 3,000 florins were apportioned to each of his assistants, Drs. Wölfler and Gersnay.

A slight idea of the enormous quantity of operative surgery Billroth performs, can be formed from a recent Sunday forenoon's labor. In that space of time, he removed two ovarian tumors and extirpated two uteri. The four patients survived the operations. His usual daily operation duty at the "Allgemeine Krankenhaus" is two and one-half hours.

RYDYGIER'S FIRST PYLORIC RESECTION FOR GASTRIC ULCER.—The latest communication from Rydygier, who first performed the operation of pyloric resection for carcinoma, gives an account of a similar procedure for ulcer ventriculi.

The patient, a woman 32 years old, had suffered for two years from constantly increasing gastric symptoms. Careful examination led to the diagnosis of ulcer ventriculi in the pyloric region, in consequence of which the pyloric orifice was narrowed, and subsequently, dilatation of the stomach had ensued. The greater curvature extended to the symphysis, the lesser to two fingers' breadth above the umbilicus.

Under the conviction that resection was indicated, the operation was undertaken. Owing to adhesions, a portion of the pancreas was also removed. After the application of Rydygier's elastic compressor, which had formerly proved so useful, the pylorus was resected in such a manner that more was cut away from the posterior wall of the duodenum than from the anterior, and, indeed, so much that sufficient of the viscus did not extend above the compressor to admit of the application of stitches. A further division of the viscus was impossible on account of adhesions and the compressorium was obliged to be removed.

The unintentional tongue-shaped excision of the duodenal wall was of the greatest advantage, however, in so far that the duodenal extremity was made longer and was turned into the gastric lumen without requiring any further expedient.

The wound was sewed up with two rows of stitches, according to Czerny's method, with catgut—thirty-two inner, thirty-five outer stitches. The approximated edges were covered with iodoform powder.

The slight vomiting after the operation soon ceased.

The highest point to which the temperature rose in the succeeding nine days was 39°–39.3° C. The general condition otherwise was good. Six weeks after the operation the sick woman was discharged cured. Examination of the resected portion of the gastric wall revealed a very marked thickening of all the tissues. Through the narrowed portion it was possible only to pass a No. 9 (English) bougie.

UNIVERSITY OF VIENNA.—During the winter semester just ended, the total number of students in attendance at the University of Vienna was 4,823.

Under the theological faculty, 226 were inscribed; under the legal faculty, 2,240; under the medical faculty, 1,412; under the philosophical faculty, 769; under the pharmaceutical faculty, 176.

Since the winter of 1877–78, the number of students inscribed under the faculty of medicine has doubled itself. This summary does not include the large number of American and English physicians and surgeons coming for purposes of study, who do not usually matriculate.

NEW PROFESSORS.—The latest, best grounded reports as to the future occupants of the vacant professorial chairs are as follows:

In Duchek's place (Chair and Clinic of Internal Medicine), Prof. Erb or Prof. Nothnagel will be called.

In Gratz (Chair of Pathological Anatomy, vacated by Kundrat's removal to Vienna), Docent Weichselbaum, of Vienna, will be selected.

Dr. Chiari will be elected Prosector of the Vienna Pathological Institute.

In Prague (Klebs' Chair of Pathological Anatomy), Eppinger, a former assistant, will be chosen.

Zuckerkindl and Kundrat are already installed.

Arlt in Vienna, Jaksch, in Prague, two of the most famous Austrian clinicians, have openly expressed their intention of retiring from the office of teaching, in the near future.

"Seldom," says a Vienna medical journal, "has a State, in so short a time, been able to exhibit such a change in a body of teachers in a medical faculty, as has been the case with us, in Austria, within the last five years."

PROF. KLEBS received from His Majesty the Emperor of Austria "the highest possible recognition of his excellent scientific labor and skill in teaching," before leaving Prague.

The *Allgemeine Wiener Medizinische Zeitung*, in commenting upon the severe treatment, at the hands of the press and Austrian people, of which Klebs has been the recipient, makes the observation, "those are not the worst fruits which wasps sting."

THE PUBLIC HEALTH.—The following is a brief supplementary report of some of the chief causes of death for the week ending April 22. Small-pox still continues prevalent in New Orleans; the deaths for the week being 18, or one more than reported the week preceding. There were 4 deaths in Hudson Co., N. J.; 1 death in Brooklyn, and 7 new cases; 1 death each in the District of Columbia and Wheeling, W. Va.; and 2 new cases in Omaha, Neb.

Cerebro-spinal meningitis is much less prevalent in Buffalo, 4 deaths being the entire number reported for the week. There were 2 deaths from this cause in Brooklyn, 2 in Hudson Co., N. J., and 2 in San Francisco.

Diphtheria caused 12 deaths in Brooklyn; 3 each in Hudson Co., N. J., and the District of Columbia; and 1 each in New Orleans and Wheeling, W. Va. From *typhoid fever* there were 4 deaths in New Orleans; 2 each in Brooklyn, Hudson Co., N. J., Buffalo, and Richmond, Va.; and 1 each in the District of Columbia and San Francisco.

Scarlet fever, for some time past very prevalent in Brooklyn, shows a tendency to increase in mortality. The deaths for the week were 34, which is 10 more than the number reported the preceding week. There were 4 deaths from this cause in Hudson Co., N. J.; 3 in San Francisco; 2 in Buffalo; and 1 each in New Orleans, the District of Columbia, Wheeling, W. Va., and Vicksburg. There were 10 deaths from *measles* in Brooklyn during the week.

Consumption caused 44 deaths in Brooklyn; 9 in Hudson Co.; 10 in Buffalo; 18 in the District of Columbia; 24 in San Francisco; and 19 in New Orleans. From *pneumonia*, there were 33 deaths in Brooklyn; 8 each in Hudson Co., N. J., and San Francisco; 9 in Buffalo; 5 in the District of Columbia; and 4 in New Orleans.

For the week ending April 15, there were in San Francisco 2 deaths from *diphtheria*, 1 from *small-pox*, 1 from *typhoid fever*, 14 from *consumption*, and 11 from *pneumonia*.

For the week ending April 20, the returns of deaths from some of the prominent causes were as follows:

Small-pox.—The reports for the week with respect to this disease, so far as received, are all favorable, with the exception of that received from Cincinnati. In that city the disease is still on the increase, the deaths for the week being 55, the highest number yet recorded. In New York City there were 6 deaths; in Philadelphia and Richmond, each 3; in Chicago, 13; and in Pittsburg and Dayton, each 1 death. Of twenty prominent cities, these are the only ones in which deaths from this disease have occurred. At Pittsburg, 15 new cases of *variola* and *varioid* were reported during the week.

Cerebro-spinal Meningitis.—The mortality from this disease was very light during the week, except in Chicago, where there were 10 deaths. In no other place were over 2 deaths reported from this cause.

Diphtheria.—There were 37 deaths from *diphtheria* in New York City; 10 in Philadelphia; 6 in Boston; 5 in Cincinnati; and 12 in Chicago. In some few places only a single death is recorded, but in the greater number the disease does not appear on the weekly record.

Scarlet Fever.—A decrease in the mortality from scarlet fever is observed in New York City, but the disease is still very prevalent. In no other place is the mortality excessive. There were 65 deaths in New York City; 9 in Philadelphia; 2 in Boston; 7 in Cincinnati; 3 in Pittsburg; and 2 in Nashville. In no other place is more than 1 death reported for the week.

Typhoid and Typhus Fevers.—There is no decrease in the deaths from *typhoid fever* in Philadelphia. The number reported for the week was 19, the same as in the preceding week. New York City reports 6 deaths; Boston, Chicago, and Cincinnati, each 4; Wheeling, W. Va.; 3; Indianapolis and Louisville, each 2; and Richmond, 1 death. There was 1 death from *typhus fever* in New York City.

Measles and Whooping-cough.—There were but few deaths reported from either of these diseases, except in New York City. From the former there were 24 deaths, and from the latter 12. In Philadelphia there were 6 deaths from *measles* and 1 from *whooping-cough*; in Chicago there were 11 from *measles* and 4 from *whooping-cough*.

Consumption and Pneumonia.—Both of these diseases show a falling off in the mortality for the past week. *Consumption* caused 109 deaths in New York City; 55 in Philadelphia; 37 in Boston; 15 in Cincinnati; 13 in Chicago; 6 in Providence; and 7 in Louisville. From *pneumonia*, there were 88 deaths in New York City; 39 in Philadelphia; 27 in Chicago; 23 in Boston; 7 in Cincinnati; 4 in Providence; and 6 in Louisville.

HEALTH IN MICHIGAN.—Reports to the State Board of Health for the week ending April 22, 1882, indicate that *diarrhoea*, *erysipelas*, *neuralgia*, *cerebro-spinal meningitis*, *bronchitis*, *typhoid fever*, and *scarlet fever* have increased in area of prevalence. There was no marked decrease of any disease reported. *Small-pox* was reported present during the week ending April 22, and since, at four places in all, as follows: At Manistee, Flint, and at Detroit, April 22; at Plainwell, Allegan county (three new cases), April 24, 1882.

THE RIBERI PRIZE OF TWENTY THOUSAND FRANCS.—The subject adopted by the Academy of Medicine of Turin for the prize of 1886, is "Embryological Researches for the Advancement of our Knowledge of the Anatomy, Physiology, and Pathology of Man." The competing works, whether already printed or in MS., must be written in Italian, French, or Latin; and the printed works must have been published since 1881. Two copies must be forwarded to the Academy post-free; and if the prize is adjudged to a manuscript essay, this must be published and two copies forwarded before the prize is paid over to the successful candidate.—*Med. Times and Gaz.*, April 8, 1882.

JACKSONIAN PRIZE OF THE ROYAL COLLEGE OF SURGEONS.—The subject for this prize for the present year is "Wounds and other Injuries of Nerves, their Symptoms, Pathology and Treatment," the essays for which must be delivered at the College on or before December 30 next.

DR. J. MARION SIMS has received the decoration of the "Order of Charles the Third," from the King of Spain.

THE DANGER OF HYPNOTIC EXPERIMENTS.—Prof. Harting, of the Utrecht University (*Presse Méd. Belge*, March 5), some years since made a great number of experiments in hypnotism on various animals, as fowls, rabbits, pigeons, guinea-pigs, and frogs. But if hypnotism was induced several times in the same animal, it was found that its nervous system became greatly damaged. "I had six fowls," he says, "which at intervals of two or three days were placed in a state of hypnotism; in about three weeks' time one of these fowls became lame, hemiplegia soon after appeared, and the fowl died. It was the same with the five others, so that in three months they were all dead." These experiments ought to render us very circumspect in inducing hypnotism in man; and Prof. Brown-Séquard, who had repeated Harting's experiments, declares (*Comptes-Rendus*, February 20) that by the provocation in hysterical women of phenomena analogous to those which are so fatal to animals, we risk doing them mischief. As the result of the observations which he has made, he has reason to believe that persons frequently submitted to this kind of influence gradually become perfect subjects of demonstration, this indicating that by repetition of the exercise of the pathological functions of the nervous system the disease becomes more and more serious. Therefore it is not desirable that hypnotism or other analogous action should be often practised on hysterical subjects.—*Med. Times and Gaz.*, March 25, 1882.

PTOMAIN.—At the meeting of the Académie de Médecine on March 7, M. Gautier presented a pure specimen of a ptomaine. It was a very caustic, oily liquid, and extremely venomous; one milligramme and a half inserted under the skin of a bird killed it in less than an hour, with paralysis and tetanic convulsions.—*Bull. Gén. de Ther.*, March 30, 1882.

FATAL FLOWERS.—Nottingham is at the present time visited by so serious an epidemic of *small-pox* that it has been necessary to organize a house-to-house visitation, so as to insure the removal of cases of the disease from over-crowded localities to the hospitals provided for their reception. In the course of the perquisitions, the chief inspector entered one of the "back-to-back" houses, of which there are many in Nottingham, and in which, of course, thorough ventilation is impossible. In one of these tenements, consisting of a common sitting-room and two bed-rooms, occupied

by two families, lived a hawker, his wife, and daughter. The man himself was down with small-pox; his wife was nursing him, and, in the intervals of attending to him, was arranging flowers, which she had purchased for the purpose, into the little bouquets known as "button-holes," and which she was about to try to sell in one of the chief thoroughfares of the town. Needless to say, the inspector bought the flowers from the poor creature, and sent the sick man to hospital; but, as the woman had been selling these bouquets on previous days in the public thoroughfares, it would be hard to say how many apparently mysterious cases of small-pox may not yet appear in Nottingham. The utility of a house-to-house visitation, and of removal to hospital, in time of epidemic, was perhaps never more conclusively demonstrated.—*Brit. Med. Journ.*, March 25, 1882.

QUARANTINE IN THE SUEZ CANAL.—At a meeting of the French Academy of Science, M. DE LESSEPS, who has just returned from Egypt, denounced the quarantine system in the Suez Canal as seriously detrimental to commerce. These regulations, which cooped up thousands of pilgrims returning from Mecca in spots which speedily became fever beds, and which detained so-called suspected vessels without preventing people from landing or embarking, served no useful purpose, nor was there any object in introducing into the East a system disused at home and worthy only of the middle ages. Commerce was obstructed without the public health being secured, for fever beds were thus created, and such arbitrary and clumsy measures would never protect Europe from cholera. He himself was now supposed to be undergoing quarantine in Egypt. He invited the Academy to examine the question and report to the Government. A discussion followed. It was agreed that the matter should be inquired into.—*Brit. Med. Journ.*, April 8, 1882.

ANNUAL MEETING OF THE MEDICAL SOCIETY OF NEW JERSEY.—The one hundredth and sixteenth annual meeting of the Medical Society of New Jersey will be held in Educational Hall, at Asbury Park, on Tuesday, 23d inst., at 4 o'clock P. M., and will continue in session the following day. The Grand Avenue House will be in readiness for guests.

NEW PROFESSORS.—Dr. Roswell Park has been elected Lecturer on Surgery in Rush Medical College.

Dr. R. L. Rea has been elected Professor of Surgery in the College of Physicians and Surgeons in Chicago.

Dr. W. T. Belfield has been elected Lecturer on Physiology in Rush Medical College.

Dr. J. H. Long has been elected Professor of General Chemistry in the Chicago Medical College.

A new chair, that of State Medicine and Public Hygiene, has been created in the Chicago Medical College, and Dr. O. C. De Wolfe, Commissioner of Health of Chicago, has been elected to the position.

At the last annual meeting of the Faculty of the Bellevue Hospital Medical College, Dr. Beverley Robinson was duly appointed Professor of Clinical Medicine to that institution, and Dr. Frank H. Bosworth, Professor of Throat Diseases.

ST. LOUIS COLLEGE FOR MEDICAL PRACTITIONERS.—Arrangements are being made in St. Louis looking towards the establishment of a College for Medical Practitioners. There will be twelve departments so arranged that special courses may be taken with as little loss of time as possible. The positions have not yet been definitely filled, but it is expected that the project will take more definite shape before long.

THE MISSISSIPPI STATE MEDICAL ASSOCIATION AND THE NEW YORK CODE.—At the recent annual meeting of the Mississippi State Medical Association the following resolutions, introduced by Dr. Benj. F. Kittrell, were unanimously adopted:

Resolved, That we, the members of the Mississippi State Medical Association, view with a feeling of mortification and regret the recent action of the New York State Medical Society whereby permission is granted its members to "meet in consultation legally qualified practitioners of medicine" without any further restriction as to their professional or moral status.

Resolved, That, in our judgment, such a policy tends to degrade the enlightened and honorable physician to the level of the ordinary quack and mountebank, and deserves the emphatic condemnation of everyone who properly considers the public and the professional welfare; and, furthermore, the plea of humanity, which is invoked to justify such action, is, in this connection, necessarily specious and false.

THE SOUTH CAROLINA MEDICAL ASSOCIATION AND THE NEW YORK CODE.—At the meeting of the South Carolina Medical Association, held at Spartanburg, April 26th, on motion of Dr. R. A. Kinlock, of Charleston, the following resolutions were unanimously adopted:

Resolved, That this Association notices, with feelings of regret and mortification, the recent action of its sister society, the Medical Society of the State of New York, in altering its Code of Ethics so as to permit of consultations being held between its members and all so-called irregular practitioners of medicine who may be "legally qualified physicians."

Resolved, That science still holds her court in all enlightened lands, and that it has ever been our pride to believe that the qualifications of a true physician come from something more than the enactment of a government or the manipulation of a political machine often known as a legislative body.

Resolved, That medical consultations are properly for the benefit of our patients, and can only be of service through exchange of views and full agreement as to treatment. That no agreement can obtain between an honest scientific physician and an irregular or an advocate of a special system of medicine. To sanction in any way consultations with irregular practitioners would be to undermine our proper organizations and abandon all claim to the honor, the dignity, and the purity which have ever attached to our noble calling.

Resolved, That, as a body enjoying representation in the American Medical Association, we desire now to express our entire satisfaction with the working of the Code of Ethics which has so long, through the efforts of that body, served the respectable physician of our common country, and that we instruct our delegates to the approaching meeting of said Association to use their every influence in sustaining the integrity of the present Code, and in discountenancing the new departure of the Medical Society of the State of New York.

The Secretary was instructed to forward copies of these resolutions for publication to THE MEDICAL NEWS and to the *Medical Record*.

WHAT IS SAID ABOUT THE NEW YORK CODE OF ETHICS.

The gynecologists, ophthalmologists, otologists, laryngologists and all the other ologists of New York City have, for a long time, looked with longing eyes upon the flourishing clover fields farmed by the homœopaths of that city. They have evidently thought that a fair proportion of the honey derivable from those fields might be brought into their own hives, if the awkward

provision of the old Code, prohibiting consultations with practitioners holding to exclusive dogmas, were only removed. These specialists, the gynecologists in particular, at last decided that "something must be done," and, in February, at the annual meeting of the State Society, they proceeded to do it.—*St. Louis Clinical Record*.

The leaders of this movement in New York have ample reason to feel uncomfortable. In their own school they are almost universally condemned; by homeopaths they are ridiculed; but few, outside of their own clique, approve of their action; the best members of the profession uniting in the openly expressed hope that the innovating society shall be debarred from participation in the deliberations of the American Medical Association.—*Medical and Surgical Reporter*.

So far, we can see nothing in the movement but an eye to the mercenary side of our calling.—*North Carolina Medical Journal*.

THE PARIS FACULTY.—By a decree of the Minister of Public Instruction, M. Vulpian, the former Dean of the Faculty of Medicine of Paris, has received the title of Honorary Dean of the Faculty.

DIED.—At St. Louis, on April 28, in the fifty-seventh year of his age, JOHN T. HODGEN, M.D., Professor of Surgical Anatomy in the St. Louis Medical College.

Dr. Hodgen, while attending as a witness in a medico-legal case on the day previous, was obliged to ask to be excused from attendance on account of the severe pain from which he was suffering, and on reaching home was suffering such agony that he was only able to reach his room by crawling up stairs on his hands and knees. He died the following evening. In accordance with his instructions, a post-mortem was made, and disease of the gall-bladder was found.

Dr. Hodgen was a prominent surgeon of the West, and was well known to students of surgical literature by his contributions to the subject of the treatment of fractures; his modification of Smith's anterior splint, which is known by his name, is very generally used. He was elected President of the American Medical Association, and presided at Richmond at the meeting of 1881. He was a man of retiring manner and extreme modesty, and his kindly disposition and honest worth won for him many friends who will sincerely mourn his death.

—At Morgantown, West Virginia, on the 25th of April, HUGH W. BROCK, M.D., Professor of Anatomy, Physiology, and Hygiene, in the State University.

NOTES AND QUERIES.

VACCINIA IN SWINE.

To the Editor of THE MEDICAL NEWS.

Sir: Is there a disease among swine that is similar to *vaccinia* in the cow and *grease* in the equine family?

If so, are those diseases inter-communicable with one another and *variola*?

I am led to ask the above questions because of the following personal observations: Last November my neighbor, Dr. Harvey, put up a number of hogs, intending to fatten them for slaughtering. It soon became evident that one of them was pregnant; she was separated from the rest, and during the month of January, 1882, gave birth to seven healthy pigs. These all grew and appeared healthy until near one month old, when, in the morning, one was found dead in the pen; this was thrown out. A few mornings later a second death had occurred, and the next morning a third. This sudden course caused a suspicion that something must be wrong, and this carcass was examined.

It was found to be thickly broken out on the lower half of the body and inner sides of the legs, with an eruption that is well represented by a vaccination pustule at about the seventh day; or that stage of pustule when pus is beginning to collect in the outer and upper portion of the rim. The pigs continued to die at about this

rate until, in the course of fifteen days, all were gone; the four last were all examined, and showed near the same amount of eruption. All had apparently died at about the same stage of the disease. All died during night-time. None showed signs of sickness during the previous twenty-four hours; although a critical examination was not made during life as to the eruption. These were the only cases of the disease that I know of. The above occurred soon after our small-pox epidemic had subsided.

J. SCHNECK, M.D.

Mt. Carmel, Ill.

[Swine have, as do all of the domesticated animals, their peculiar forms of *variola*; although I believe it to be in this country, at all events, of comparatively rare occurrence.

Most authorities agree that, although it may be directly developed, its extension by direct contagion is by far the more common cause of its appearance. Nor does there seem to be any doubt but that the *variola* of the pig may be communicated to mankind, as that of man has been communicated to the pig.

As it may be of interest here, we will shortly describe the symptoms which are pretty constant in their development in the suillæ. "After the febrile phenomena, which are very intense, and continue for some days, there appear on the head, neck, chest, belly, and inner aspect of the thighs, red spots, which are soon transformed into nodules. Towards the sixth day of the disease these become vesicles, and about the ninth or tenth day, pustules; the contents then begin to desiccate, and form a crust which is eliminated in a few days, leaving a well-defined cicatrix. The eruption appears as discrete and confluent." This disease most frequently affects young pigs, and an attack confers permanent immunity.

"In its general character, contagiousness, symptoms, course, and terminations, the *variola* of the pig bears more analogy to human *variola* than that of any other of the domesticated animals." (Fleming.)

We may say, in addition to the above, that although the horse is subject to *variola*, and that when the pustules appear on the limbs, from the knees and hocks downwards, it is designated by some as "grease," it should not, by any means, be inferred that all cases of the so called "grease" in horses are *variola*. In fact, horse-pox is with us extremely rare, while a certain disease of the skin of horses' legs, described by Williams as an eczema, is of common occurrence.—ED.]

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 25 TO MAY 1, 1882.

JAQUETT, G. P., Major and Surgeon.—Granted leave of absence for six months on surgeon's certificate of disability.—*G. O. 97, A. G. O., April 27, 1882.*

MAUS, L. M., Captain and Assistant Surgeon.—Having reported at these headquarters, will proceed to Fort Lewis, Col., and report to the commanding officer for duty.—*S. O. 86, Department of the Missouri, April 24, 1882.*

PORTER, JOS. Y., Captain and Assistant Surgeon.—His leave of absence for one month granted him in *S. O. 32, Department of the South, March 14, 1882*, extended one month, with permission to apply for a further extension of twenty days.—*S. O. 17, Military Division of the Atlantic, April 25, 1882.*

GARDINER, J. DEB. W., Captain and Assistant Surgeon.—Telegraphic instructions of this date, assigning him to duty at Fort Huachuca, Arizona Territory, confirmed.—*S. O. 57, Department of Arizona, April 19, 1882.*

GARDNER, EDWIN B., Captain and Assistant Surgeon.—Having reported at these headquarters, is assigned to temporary duty at Vancouver Barracks, Washington Territory.—*S. O. 50, Department of the Columbia, April 14, 1882.*

SHUFFELDT, R. W., Captain and Assistant Surgeon.—Granted leave of absence for three months, from May 1, 1882. Relieved from duty in the office of the Surgeon General, to take effect May 1, 1882, and, upon expiration of his leave, to report by letter to the Surgeon General.—*S. O. 92, A. G. O., April 21, 1882.*

ROBINSON, S. Q., Captain and Assistant Surgeon.—Having reported at these headquarters, is assigned to duty at Fort Spokane, Washington Territory.—*S. O. 50, C. S., Department of the Columbia.*

THE MEDICAL NEWS will be pleased to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession.

Local papers containing reports or news items should be marked. Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS should be addressed to No. 1004 Walnut Street, Philadelphia.